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Cognitive development focuses on the development of children’s ways of perceiving and mentally representing the world.
Laurent . . . resumes his experiments of the day before. He grabs in succession a celluloid swan, a box, etc., stretches out his arm and lets them fall. He distinctly varies the position of the fall. Sometimes he stretches out his arm vertically, sometimes he holds it obliquely, in front of or behind his eyes, etc. When the object falls in a new position, he lets it fall two or three times more on the same place, as though to study the spatial relation; then he modifies the situation.

Is this description one of a scientist at work? In a way, it is. Although Swiss psychologist Jean Piaget (1963 [1936]) was describing his 11-month-old son Laurent, children of this age frequently act like scientists, performing what Piaget called “experiments in order to see.”

Cognitive development focuses on the development of children’s ways of perceiving and mentally representing the world. Piaget labeled children’s concepts of the world schemes. He hypothesized that children try to use assimilation to absorb new events into existing schemes. When assimilation does not allow
Part 2: Birth and infancy

the child to make sense of novel events, children try to modify existing schemes through accommodation.

Piaget (1963 [1936]) hypothesized that cognitive processes develop in an orderly sequence of stages. Some children may advance more quickly than others, but the sequence remains constant (Flavell et al., 2002; Siegler & Alibali, 2005). Piaget identified four stages of cognitive development: sensorimotor, preoperational, concrete operational, and formal operational. In this chapter, we discuss the sensorimotor stage.

THE SENSORIMOTOR STAGE

Piaget’s sensorimotor stage refers to the first 2 years of cognitive development, a time during which infants progress from responding to events with reflexes, or ready-made schemes, to goal-oriented behavior. Piaget divided the sensorimotor stage into six substages. In each substage, earlier forms of behavior are repeated, varied, and coordinated.

Simple Reflexes

The first substage covers the first month after birth. It is dominated by the assimilation of sources of stimulation into inborn reflexes such as grasping or visual tracking. At birth, reflexes seem stereotypical and inflexible. But even within the first few hours, neonates begin to modify reflexes as a result of experience. For example, infants will adapt patterns of sucking to the shape of the nipple and the rate of flow of fluid. During the first month or so, however, infants apparently make no connection between stimulation perceived through different sensory modalities. They make no effort to grasp objects that they visually track.

Primary Circular Reactions

The second substage, primary circular reactions, lasts from about 1 to 4 months of age and is characterized by the beginnings of the ability to coordinate various sensorimotor schemes. Infants tend to repeat stimulating actions that first occurred by chance. They may lift their arm repeatedly to bring it into view. Primary circular reactions focus on the infant’s own body rather than on the external environment. Piaget noticed the following primary circular reaction in his son Laurent:

At 2 months 4 days, Laurent by chance discovers his right index finger and looks at it briefly. At 2 months 11 days, he inspects for a moment his open right hand, perceived by chance. At 2 months 17 days, he follows its spontaneous movement for a moment, then examines it several times while it searches for his nose or rubs his eye.

—Piaget (1963 [1936], pp. 96–97)

Thus, Laurent, early in the third month, visually tracks the behavior of his hands, but his visual observations do not affect their movement. In terms of assimilation and accommodation, the child is attempting to assimilate the motor scheme (moving the hand) into the sensory scheme (looking at it). But the schemes do not automatically fit. Several days of apparent trial and error pass, during which the infant seems to be...
trying to make accommodations so that they will
fit. By the third month, infants may examine objects
repeatedly and intensely. It seems that the infant is no
longer simply looking and seeing but is now “looking
in order to see.”

Because Laurent (and other infants) will repeat
actions that allow them to see, cognitive-developmen-
tal psychologists consider sensorimotor coordination
self-reinforcing. Laurent is acting on his hands to keep
them in his field of vision. Piaget considers the desire
to prolong stimulation to be as “basic” as the drives of
hunger or thirst.

Secondary Circular Reactions
The third substage lasts from about 4 to 8 months
and is characterized by secondary circular reactions,
in which patterns of activity are repeated because of
their effect on the environment. In the second substage
(primary circular reactions), infants are focused on
their own bodies, as in the example given with Lau-
rent. In the third substage (secondary circular reac-
tions), the focus shifts to objects and environmental
events. Infants may now learn to pull strings in order
to make a plastic face appear or to shake an object in
order to hear it rattle.

Coordination of Secondary Schemes
In the fourth substage, infants no longer act simply to
prolong interesting occurrences. Now they can coordi-
nate schemes to attain specific goals. Infants begin to
show intentional, goal-directed behavior in which they
differentiate between the means of achieving a goal and
the goal or end itself. For example, they may lift a piece
of cloth to reach a toy that they had seen a parent place
under the cloth earlier. In this example, the scheme of
picking up the cloth (the means) is coordinated with
the scheme of reaching for the toy (the goal
or end). This example indicates that the infant has mentally rep-
resented the toy placed under the cloth.

During the fourth substage, infants also
gain the capacity to imitate gestures and sounds
that they had previously ignored. The imitation of a
facial gesture implies that infants have mentally rep-
resented their own faces and can tell what parts of
their faces they are moving through feedback from
facial muscles.

Tertiary Circular Reactions
In the fifth substage, which lasts from about 12 to 18
months of age, Piaget looked on the behavior of infants
as characteristic of budding scientists. Infants now engage in
tertiary circular reactions, or purposeful adaptations
of established schemes to specific situations. Behavior
takes on a new experimental quality, and infants may
vary their actions dozens of times in a deliberate trial-
and-error fashion to learn how things work.

Piaget reported an example of tertiary circular reac-
tions by his daughter Jacqueline. The episode was an
experiment in which Piaget placed a stick outside Jac-
queline’s playpen, which had wooden bars (Piaget, 1963
[1936]). At first, Jacqueline grasped the stick and tried
to pull it sideways into the playpen. The stick was too
long and could not fit through the bars. After days of
overt trial and error, however, Jacqueline discovered that
she could bring the stick between the bars by turning
it upright. In the sixth substage, described next, infants
apparently engage in mental trial and error before dis-
playing the correct overt response.

**Infants coordinate their behavior to
attain specific goals (coordinating
secondary schemes).**

**Infants use trial-and-error to learn how
things work (tertiary circular reactions).**

**The Bayley scales measure an infant’s
mental and motor development. (More
on page 9)**
The sixth substage lasts from about 18 to 24 months of age. It serves as a transition between sensorimotor development and the development of symbolic thought. External exploration is replaced by mental exploration. At about 18 months, children may also use imitation to symbolize or stand for a plan of action.

Piaget presented his other children, Lucienne and Laurent, with the playpen and stick problem at the age of 18 months old. Rather than engage in overt trial and error, the 18-month-old children sat and studied the situation for a few moments. Then they grasped the stick, turned it upright, and brought it into the playpen with little overt effort. Lucienne and Laurent apparently mentally represented the stick and the bars of the playpen and perceived that the stick would not fit through as it was. They must then have rotated the mental image of the stick until they perceived a position that would allow the stick to pass between the bars.

Object permanence recognition that objects continue to exist when they are not in view.

Development of Object Permanence

The appearance of object permanence is an important aspect of sensorimotor development. Object permanence is the recognition that an object or person continues to exist when out of sight. For example, your textbook continues to exist when you leave it in the library after studying for the big test, and an infant’s mother continues to exist even when she is in another room. The development of object permanence is tied into the development of infants’ working memory and reasoning ability (Aguiar & Baillargeon, 2002; Saiki & Miyatsuji, 2007).

Neonates show no tendency to respond to objects that are not within their immediate sensory grasp. By the age of 2 months, infants may show some surprise if an object (such as a toy duck) is placed behind a screen and then taken away so that when the screen is lifted, it is absent. However, they make no effort to search for the missing object. (See Figure 5.1.) Through the first 6 months or so, when the screen is placed between the object and the infant, the infant behaves as though the object is no longer there. It is true that “out of sight” is “out of mind” for 2-month-old infants. Apparently, they do not yet reliably mentally represent objects they see.

There are some interesting advances in the development of the object concept by about the sixth month (Piaget’s substage 3). For example, an infant at this age will tend to look for an object that has been dropped, behavior that suggests some form of object permanence. By this age, there is also reason to believe that the infant perceives a mental representation (image) of an object, such as a favorite toy, in response to sensory impressions of part of the object. This perception is shown by the infant’s reaching for an object that is partly hidden.

By 8 to 12 months of age (Piaget’s substage 4), infants will seek to retrieve objects that have been completely hidden. But in observing his own children, Piaget (1963 [1936]) noted an interesting error known as the A-not-B error. Piaget repeatedly hid a toy behind a screen (A), and each time, his infant removed the screen and retrieved the toy. Then, as the infant watched, Piaget hid the toy behind another screen (B) in a different place. Still, the infant tried to recover the toy by pushing aside the first screen (A). It is as though the child had learned that a certain motor activity would reinstate the missing toy. The child’s concept of the object did not, at this age, extend to recognition that objects usually remain in the place where they have been most recently mentally represented.

Under certain conditions, 9- to 10-month-old infants do not show the A-not-B error (Bremner & Bryant, 2001; Marcovitch & Zelazo, 2006). If infants are allowed to search for the object immediately after seeing it hidden, the error often does not occur. But if they are forced to wait 5 or more seconds before looking, they are likely to commit the A-not-B error (Wellman et al., 1986).

Evaluation of Piaget’s Theory

Piaget’s theory remains a comprehensive model of infant cognition. Many of his observations of his own infants have been confirmed by others. The pattern and sequence
of events he described have been observed among American, European, African, and Asian infants (Werner, 1988). Still, research has raised questions about the validity of many of Piaget’s claims (Siegler & Alibali, 2005).

First, most researchers now agree that cognitive development is not as tied to discrete stages as Piaget suggested (Krojgaard, 2005; Siegler & Alibali, 2005). Although later developments seem to build on earlier ones, the process appears to be more gradual than discontinuous.

Second, Piaget emphasized the role of maturation, almost to the point of excluding adult and peer influences on cognitive development. However, these interpersonal influences have been shown to play important roles in cognitive development (Kuhn, 2007; Maratsos, 2007).

Third, Piaget appears to have underestimated infants’ competence (Siegler & Alibali, 2005). For example, infants display object permanence earlier than he believed (Wang et al., 2005). Also consider studies on deferred imitation (imitation of an action that may have occurred hours, days, or even weeks earlier). The presence of deferred imitation suggests that children have mentally represented behavior patterns. Piaget believed that deferred imitation appears at about

**FIGURE 5.1**

**Development of Object Permanence**

To the infant who is in the early part of the sensorimotor stage, out of sight is truly out of mind. Once a sheet of paper is placed between the infant and the toy monkey (top two photos), the infant loses all interest in the toy. From evidence of this sort, Piaget concluded that the toy is not mentally represented. The bottom series of photos shows a child in a later part of the sensorimotor stage. This child does mentally represent objects and pushes through a towel to reach an object that has been screened from sight.
18 months, but others have found that infants show deferred imitation as early as 9 months. In Meltzoff’s (1988) study, 9-month-old infants watched an adult perform behaviors such as pushing a button to produce a beep. When given a chance to play with the same objects a day later, many infants imitated the actions they had witnessed.

**LO2 Information Processing**

The information-processing approach to cognitive development focuses on how children manipulate or process information coming in from the environment or already stored in the mind. Infants’ tools for processing information include their memory and imitation.

**INFANTS’ MEMORY**

Many of the cognitive capabilities of infants—recognizing the faces of familiar people, developing object permanence, and, in fact, learning in any form—depend on one critical aspect of cognitive development: their memory (Daman-Wasserman et al., 2006; Hayne & Fagen, 2003). Even neonates demonstrate memory for stimuli to which they have been exposed previously. For example, neonates adjust their rate of sucking to hear a recording of their mother reading a story she had read aloud during the last weeks of pregnancy, as discussed in Chapter 2 (DeCasper & Fifer, 1980; DeCasper & Spence, 1991).

Memory improves dramatically between 2 and 6 months of age and then again by 12 months (Pelphrey et al., 2004; Rose et al., 2001). The improvement may indicate that older infants are more capable than younger ones of encoding (i.e., storing) information, retrieving information already stored, or both (Hayne & Fagen, 2003).

A fascinating series of studies by Carolyn Rovee-Collier and her colleagues (Rovee-Collier, 1993) illustrates some of these developmental changes in infant memory. As shown in the image above, one end of a ribbon was tied to a brightly colored mobile suspended above the infant’s crib. The other end was tied to the infant’s ankle, so that when the infant kicked, the mobile moved. Infants quickly learned to increase their rate of kicking. To measure memory, the infant’s ankle was again fastened to the mobile after a period of 1 or more days had elapsed. In one study, 2-month-olds remembered how to make the mobile move after delays of up to 3 days, and 3-month-olds remembered for more than a week (Greco et al., 1986).

Infant memory can be improved if infants receive a reminder before they are given the memory test (Bearce et al., 2006). In one study that used a reminder (“priming”), infants were shown the moving mobile on the day before the memory test, but they were not allowed to activate it. Under these conditions, 3-month-olds remembered how to move the mobile after a 28-day delay (Rovee-Collier, 1993).

**IMITATION: INFANT SEE, INFANT DO?**

Imitation is the basis for much of human learning. Deferred imitation—that is, the imitation of actions after a time delay—occurs as early as 6 months of age (Barr et al., 2005; Campanella & Rovee-Collier, 2005). To help them remember the imitated act, infants are usually permitted to practice it when they learn it. But in one study, 12-month-old infants were prevented from practicing the behavior they imitated. Yet they were able to demonstrate it 4 weeks later, suggesting that they had mentally represented the act (Klein & Meltzoff, 1999).

But infants can imitate certain actions at a much earlier age. Neonates only 0.7 to 71 hours old have been found to imitate adults who open their mouths or stick out their tongues (Meltzoff & Prinz, 2002; Rizzolatti et al., 2002; see Figure 5.2).
Before you become too impressed with this early imitative ability of neonates, you should know that some studies have not found imitation in early infancy (Abravanel & DeYong, 1991). One key factor may be the infants’ age. The studies that find imitation generally have been done with very young infants—up to 2 weeks old—whereas the studies that do not find imitation have tended to use older infants. Therefore, the imitation of neonates is likely to be reflexive. Thus, imitation might disappear when reflexes are “dropping out” and re-emerge when it has a firmer cognitive footing.

Why might newborns possess some sort of imitation reflex? Answers lie in the realm of speculation. One possibility is that such a built-in response would contribute to the formation of caregiver–infant bonding and the survival of the newborn (Meltzoff & Prinz, 2002). Some theorists speculate that the imitation reflex is made possible by “mirror neurons” that are found in human brains. Such neurons are maintained by evolutionary forces because they enhance the probability of survival as a result of caregiving (Oztop et al., 2006; Rizzolatti et al., 2002).

A 1-hour-old infant may imitate an adult who sticks out his or her tongue. True, but that imitation is reflexive.
assesses attention span, goal directedness, persistence, and aspects of social and emotional development. Table 5.1 contains sample items from the mental and motor scales and shows the ages at which 50% of the infants taking the test passed the items.

Even though psychologists can begin to measure intelligence in infancy, they use items that differ from the kinds of items used with older children and adults. It remains unclear how well results obtained in infancy predict intellectual functioning at later ages.

**TESTING INFANTS: WHY AND WITH WHAT?**

As you can imagine, it is no easy matter to test an infant. The items must be administered on a one-to-one basis by a patient tester, and it can be difficult to judge whether the infant is showing the targeted response. Why, then, do we test infants?

One reason is to screen infants for handicaps. A tester may be able to detect early signs of sensory or neurological problems, as suggested by development of visual–motor coordination. In addition to the Bayley scales, a number of tests have been developed to screen infants for such difficulties, including the Brazelton Neonatal Behavioral Assessment Scale (see Chapter 3) and the Denver Developmental Screening Test.

**INSTABILITY OF INTELLIGENCE SCORES ATTAINED IN INFANCY**

Researchers have also tried to use infant scales to predict development, but this effort has been less than suc-

---

**TABLE 5.1**

**Items from the Bayley Scales of Infant Development (BSID-II)**

<table>
<thead>
<tr>
<th>AGE</th>
<th>MENTAL-SCALE ITEMS</th>
<th>MOTOR-SCALE ITEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 month</td>
<td>The infant quiets when picked up.</td>
<td>The infant makes a postural adjustment when put to examiner's shoulder.</td>
</tr>
<tr>
<td>2 months</td>
<td>When examiner presents two objects (bell and rattle) above the infant in a crib, the infant glances back and forth from one to the other.</td>
<td>The infant holds his or her head steady when being carried about in a vertical position.</td>
</tr>
<tr>
<td>5 months</td>
<td>The infant is observed to transfer an object from one hand to the other during play.</td>
<td>When seated at a feeding-type table and presented with a sugar pill that is out of reach, the infant attempts to pick it up.</td>
</tr>
<tr>
<td>8 months</td>
<td>When an object (toy) in plain view of the infant (i.e., on a table) is covered by a cup, the infant removes the cup to retrieve the object.</td>
<td>The infant raises herself or himself into a sitting position.</td>
</tr>
<tr>
<td>12 months</td>
<td>The infant imitates words that are spoken by the examiner.</td>
<td>When requested by the examiner, the infant stands up from a position in which she or he had been lying on her or his back on the floor.</td>
</tr>
<tr>
<td>14–16 months</td>
<td>The infant builds a tower with two cubes (blocks) after the examiner demonstrates the behavior.</td>
<td>The infant walks alone with good coordination.</td>
</tr>
</tbody>
</table>
cessful. One study found that scores obtained during the first year of life correlated moderately at best with scores obtained a year later (Harris et al., 2005). Certain items on the Bayley scales appear to predict related intellectual skills later in childhood. For example, Bayley items measuring infant motor skills predict subsequent fine motor and visual–spatial skills at 6 to 8 years of age (Siegel, 1992). Bayley language items also predict language skills at the same age (Siegel, 1992).

One study found that the Bayley scales and socioeconomic status were able to predict cognitive development among low-birth-weight children from 18 months to 4 years of age (Dezoete et al., 2003). But overall scores on the Bayley and other infant scales apparently do not predict school grades or IQ scores among schoolchildren very well (Colombo, 1993). Perhaps the sensorimotor test items used during infancy are not that strongly related to the verbal and symbolic items used to assess intelligence at later ages.

The overall conclusion seems to be that the Bayley scales can identify gross lags in development and relative strengths and weaknesses. However, they are only moderate predictors of intelligences scores even one year later, and are still poorer predictors of scores taken beyond longer stretches of time.

**USE OF VISUAL RECOGNITION MEMORY**

In a continuing effort to find aspects of intelligence and cognition that might remain consistent from infancy through later childhood, a number of researchers have recently focused on visual recognition memory (Courage et al., 2004). **Visual recognition memory** is the ability to discriminate previously seen objects from novel objects. This procedure is based on habituation.

Let us consider longitudinal studies of this type. Susan Rose and her colleagues (Rose et al., 1992) showed 7-month-old infants pictures of two identical faces. After 20 seconds, the pictures were replaced with one picture of a new face and a second picture of the familiar face. The amount of time the infants spent looking at each face in the second set of pictures was recorded. Some infants spent more time looking at the new face than at the older face, suggesting that they had better memory for visual stimulation. The children were given standard IQ tests yearly from ages 1 through 6. It was found that the children with greater visual recognition memory later attained higher IQ scores.

Rose and her colleagues (2001) also showed that, from age to age, individual differences in capacity for visual recognition memory are stable. This finding is important because intelligence—the quality that many researchers seek to predict from visual recognition memory—is also theorized to be a reasonably stable trait. Similarly, items on intelligence tests are age graded; that is, older children perform better than younger children, even as developing intelligence remains constant. So, too, with visual recognition memory. Capacity for visual recognition memory increases over the first year after birth (Rose et al., 2001).

A number of other studies have examined the relationship between either infant visual recognition memory or preference for novel stimulation (which is a related measure) and later IQ scores. In general, they show good predictive validity for broad cognitive abilities throughout childhood, including measures of intelligence and language ability (Heiman et al., 2006; S. A. Rose et al., 2004).

In sum, scales of infant development may provide useful data as screening devices, as research instruments, or simply as a way to describe the things that infants do and do not do, but their predictive power as intelligence tests has been disappointing. Tests of visual recognition hold better promise as predictors of intelligence at older ages.

Now let us turn our attention to a fascinating aspect of cognitive development, the development of language.

**Language Development**

As children develop language skills, they often begin speaking about the things more closely connected with their environments and their needs. Children enjoy playing with language. In physical development,
**EARLY VOCALIZATIONS**

Children develop language according to an invariant sequence of steps, or stages, as outlined in Table 5.2 on the next page. We begin with the prelinguistic vocalizations. True words are symbols of objects and events. Prelinguistic vocalizations, such as cooing and babbling, do not represent objects or events, so infant crying is not a primitive form of language.

Newborn children, as parents are well aware, have an unlearned but highly effective form of verbal expression: crying and more crying. Crying is about the only sound that infants make during the first month. During the second month, infants begin cooing. Infants use their tongues when they coo. For this reason, coos are more articulated than cries. Coos are often vowel-like and may resemble extended “oohs” and “ahs.” Cooing appears linked to feelings of pleasure or positive excitement. Infants tend not to coo when they are hungry, tired, or in pain.

Cries and coos are innate but can be modified by experience (Volterra et al., 2004). When parents respond positively to cooing by talking to their infants, smiling at them, and imitating them, cooing increases. Early parent–child “conversations,” in which parents respond to coos and then pause as the infant coos, may foster infant awareness of taking turns as a way of verbally relating to other people.

By about 8 months of age, cooing decreases markedly. Somewhere between 6 and 9 months, children begin to babble. Babbling is the first vocalizing that sounds like human speech. In babbling, infants frequently combine consonants and vowels, as in ba, ga, and, sometimes, the much valued dada (Stoel-Gammon, 2002). At first, dada is purely coincidental (sorry, you dads), despite the family’s jubilation over its appearance.

In verbal interactions between infants and adults, the adults frequently repeat the syllables produced by their infants. They are likely to say “dadada” or “bababa” instead of simply “da” or “ba.” Such redundancy apparently helps infants discriminate these sounds from others and further encourages them to imitate their parents (Elkind, 2007; Tamis-LeMonda et al., 2006).

After infants have been babbling for a few months, parents often believe that their children are having conversations with themselves. At 10 to 12 months, infants tend to repeat syllables, showing what linguists refer to as echolalia. Parents overhear them going on and on, repeating consonant–vowel combinations (“ah-bah-bah-bah-bah”), pausing, and then switching to other combinations.

Toward the end of the first year, infants are also using patterns of rising and falling intonation that resemble the sounds of adult speech. It may sound as though the infant is trying to speak the parents’ language. Parents may think that their children are babbling in English or in whatever tongue is spoken in the home.

**DEVELOPMENT OF VOCABULARY**

Vocabulary development refers to the child’s learning the meanings of words. In general, children’s receptive vocabulary development outpaces their expressive vocabulary development (Lickliter, 2001; Ouellette, 2006). In other words, at any given time, they can understand more words than they can use. One study, for example, found that 12-month-olds could speak an average of 13 words but could comprehend the meaning of 84 (Tamis-LeMonda et al., 2006). Infants usually understand much of what others are saying well before they themselves utter any words at all. Their ability to segment speech sounds into meaning-
ful units—or words—before 12 months is a good predictor of their vocabulary at 24 months (Newman et al., 2006).

**The Child’s First Words**

Ah, that long-awaited first word! What a milestone! Sad to say, many parents miss it. They are not quite sure when their infants utter their first word, often because the first word is not pronounced clearly or because pronunciation varies from usage to usage.

A child’s first word typically is spoken between the ages of 11 and 13 months, but a range of 8 to 18 months is considered normal (Hoff, 2006; Tamis-LeMonda et al., 2006). First words tend to be brief, consisting of one or two syllables. Each syllable is likely to

---

**TABLE 5.2**

**Milestones in Language Development in Infancy**

<table>
<thead>
<tr>
<th>APPROXIMATE AGE</th>
<th>VOCALIZATION AND LANGUAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth</td>
<td>• Cries.</td>
</tr>
<tr>
<td>12 weeks</td>
<td>• Cries less.</td>
</tr>
<tr>
<td></td>
<td>• Smiles when talked to and nodded at.</td>
</tr>
<tr>
<td></td>
<td>• Engages in squealing and gurgling sounds (cooing).</td>
</tr>
<tr>
<td></td>
<td>• Sustains cooing for 15–20 seconds.</td>
</tr>
<tr>
<td>16 weeks</td>
<td>• Responds to human sounds more definitely.</td>
</tr>
<tr>
<td></td>
<td>• Turns head, searching for the speaker.</td>
</tr>
<tr>
<td></td>
<td>• Chuckles occasionally.</td>
</tr>
<tr>
<td>20 weeks</td>
<td>• Cooing becomes interspersed with consonant-like sounds.</td>
</tr>
<tr>
<td></td>
<td>• Vocalizations differ from the sounds of mature language.</td>
</tr>
<tr>
<td>6 months</td>
<td>• Cooing changes to single-syllable babbling.</td>
</tr>
<tr>
<td></td>
<td>• Neither vowels nor consonants have fixed pattern of recurrence.</td>
</tr>
<tr>
<td></td>
<td>• Common utterances sound somewhat like <em>ma, mu, da</em>, or <em>di</em>.</td>
</tr>
<tr>
<td>8 months</td>
<td>• Continuous repetition (reduplication) enters into babbling.</td>
</tr>
<tr>
<td></td>
<td>• Patterns of intonation become distinct.</td>
</tr>
<tr>
<td></td>
<td>• Utterances can signal emphasis and emotion.</td>
</tr>
<tr>
<td>10 months</td>
<td>• Vocalizations mixed with sound play, such as gurgling, bubble blowing.</td>
</tr>
<tr>
<td></td>
<td>• Makes effort to imitate sounds made by older people with mixed success.</td>
</tr>
<tr>
<td>12 months</td>
<td>• Identical sound sequences replicated more often.</td>
</tr>
<tr>
<td></td>
<td>• Words (e.g., <em>mamma</em> or <em>dadda</em>) emerge.</td>
</tr>
<tr>
<td></td>
<td>• Many words and requests understood (e.g., “Show me your eyes”).</td>
</tr>
<tr>
<td>18 months</td>
<td>• Repertoire of 3–50 words.</td>
</tr>
<tr>
<td></td>
<td>• Explosive vocabulary growth.</td>
</tr>
<tr>
<td></td>
<td>• Babbling consists of several syllables with intricate intonation.</td>
</tr>
<tr>
<td></td>
<td>• Little effort to communicate information.</td>
</tr>
<tr>
<td></td>
<td>• Little joining of words into spontaneous two-word utterances.</td>
</tr>
<tr>
<td></td>
<td>• Understands nearly everything spoken.</td>
</tr>
<tr>
<td>24 months</td>
<td>• Vocabulary more than 50 words, naming everything in the environment.</td>
</tr>
<tr>
<td></td>
<td>• Spontaneous creation of two-word sentences.</td>
</tr>
<tr>
<td></td>
<td>• Clear efforts to communicate.</td>
</tr>
</tbody>
</table>

Source: Table items adapted from Lenneberg (1967, pp. 128–130).
Note: Ages are approximations. Slower development does not necessarily indicate language problems. Albert Einstein did not talk until the age of 3.
Part 2: Birth and infancy

consist of a consonant followed by a vowel. Vocabulary acquisition is slow at first. It may take children 3 or 4 months to achieve a vocabulary of 10 to 30 words after the first word is spoken (de Villiers & de Villiers, 1999).

By about 18 months of age, children may be producing up to 50 words. Many of them are quite familiar, such as no, cookie, mama, hi, and eat. Others, such as all gone and bye-bye, may not be found in the dictionary, but they function as words. That is, they are used consistently to symbolize the same meaning.

More than half (65%) of children’s first words make up “general nominals” and “specific nominals” (Hoff, 2006; Nelson, 1973). General nominals are similar to nouns in that they include the names of classes of objects (car, ball), animals (doggy, cat), and people (boy, girl), but they also include both personal and relative pronouns (she, that). Specific nominals are proper nouns, such as Daddy and Rover. Words expressing movement are frequently found in early speech.

At about 18 to 22 months of age, there is a rapid burst in vocabulary (Tamis-LeMonda et al., 2006). The child’s vocabulary may increase from 50 to more than 300 words in only a few months. This vocabulary spurt could also be called a naming explosion because almost 75% of the words added during this time are nouns. The rapid pace of vocabulary growth continues through the preschool years, with children acquiring an average of nine new words per day (Hoff, 2006).

Referential and Expressive Styles in Language Development

Some children prefer a referential approach in their language development, whereas others take a more expressive approach (Hoff, 2006; Nelson, 1981). Children who show the referential language style use language primarily to label objects in their environments. Children who use an expressive language style use language primarily as a means for engaging in social interaction. Children with an expressive style use more pronouns and many words involved in social routines, such as stop, more, and all gone. More children use an expressive style than a referential style (Tamis-LeMonda et al., 2006), but most use a combination of the styles.

Overextension

Young children try to talk about more objects than they have words for. To accomplish their linguistic feats, children often extend the meaning of one word to refer to things and actions for which they do not have words (McDonough, 2002). This process is called overextension. Eve Clark (1973, 1975) studied diaries of infants’ language development and found that overextensions are generally based on perceived similarities in function or form between the original object or action and the new one. She provides the example of the word mooi, which one child originally used to designate the moon. The child then overextended mooi to designate all round objects, including the letter o and cookies and cakes. Overextensions gradually pull back...
DEVELOPMENT OF SENTENCES

The infant’s first sentences are typically one-word utterances, but they express complete ideas and therefore can be thought of as sentences. Roger Brown (1973) called brief expressions that have the meanings of sentences telegraphic speech. Adults who write telegrams use principles of syntax to cut out all the unnecessary words. “Home Tuesday” might stand for “I expect to be home on Tuesday.” Similarly, only the essential words are used in children’s telegraphic speech—in particular, nouns, verbs, and some modifiers.

Mean Length of Utterance

The mean length of utterance (MLU) is the average number of morphemes that communicators use in their sentences (Pancosfar & Vernon-Feagans, 2006; Saaristo-Helin et al., 2006). Morphemes are the smallest units of meaning in a language. A morpheme may be a whole word or part of a word, such as a prefix or suffix. For example, the word walked consists of two morphemes: the verb walk and the suffix ed, which changes the verb to the past tense. In Figure 5.3, we see the relationship between chronological age and MLU for three children tracked by Roger Brown (1973, 1977): Lin, Victor, and Sarah.

The patterns of growth in MLU are similar for each child, showing swift upward movement, broken by intermittent and brief regressions. Figure 5.3 also shows us something about individual differences. Lin was precocious compared with Victor and Sarah, extending her MLU at much earlier ages. But as suggested earlier, the receptive language of all three children would have exceeded their expressive language at any given time. Also, Lin’s earlier extension of MLU does not guarantee that she will show more complex expressive language than Victor and Sarah at maturity.

Let us now consider the features of two types of telegraphic speech: the holophrase and two-word utterances.

Holophrases

Holophrases are single words that are used to express complex meanings. For example, Mama may be used by the child to signify meanings as varied as “There
goes Mama,” “Come here, Mama,” and “You are Mama.” Most children readily teach their parents what they intend by augmenting their holophrases with gestures, intonations, and reinforcers. That is, they act delighted when parents do as requested and howl when they do not (Tamis-LeMonda et al., 2006).

Two-Word Sentences
When the child’s vocabulary consists of 50 to 100 words (usually somewhere between 18 and 24 months of age), telegraphic two-word sentences begin to appear (Tamis-LeMonda et al., 2006). In the sentence “That ball,” the words *is* and *a* are implied.

Two-word sentences, although brief and telegraphic, show understanding of syntax (Slobin, 2001). The child will say “Sit chair,” not “Chair sit,” to tell a parent to sit in a chair. The child will say “My shoe,” not “Shoe my,” to show possession. “Mommy go” means Mommy is leaving, whereas “Go Mommy” expresses the wish for Mommy to go away.

THEORIES OF LANGUAGE DEVELOPMENT

Since all normal humans talk but no house pets or house plants do, no matter how pampered, heredity must be involved in language. But since a child growing up in Japan speaks Japanese whereas the same child brought up in California would speak English, the environment is also crucial. Thus, there is no question about whether heredity or environment is involved in language, or even whether one or the other is “more important.” Instead, ... our best hope [might be] finding out how they interact.

—Steven Pinker

Billions of children have learned the languages spoken by their parents and have passed them down, with minor changes, from generation to generation. But how do they do so? In discussing this question—and so many others—we refer to the possible roles of nature and nurture. Learning theorists have come down on the side of nurture, and those who point to a basic role for nature are said to hold a nativist view.

VIEWS THAT EMPHASIZE NURTURE

Learning plays an obvious role in language development. Children who are reared in English-speaking homes learn English, not Japanese or Russian. Learning theorists usually explain language development in terms of imitation and reinforcement.

The Role of Imitation

From a social cognitive perspective, parents serve as models. Children learn language, at least in part, by observation and imitation. Many vocabulary words, especially nouns and verbs, are learned by imitation. But imitative learning does not explain why children spontaneously utter phrases and sentences that they have not observed (Tamis-LeMonda et al., 2006). Parents, for example, are unlikely to model utterances such as “Bye bye sock” and “All gone Daddy” but children say them. And children sometimes steadfastly avoid imitating certain language forms suggested by adults, even when the adults are insistent. Note the following exchange between 2-year-old Ben and a (very frustrated) adult (Kuczaj, 1982, p. 48):

**Ben:** I like these candy. I like they.

**Adult:** You like them?

**Ben:** Yes, I like they.

**Adult:** Say them.

**Ben:** Them.

**Adult:** Say “I like them.”

**Ben:** I like them.
Adult: Good.
Ben: I’m good. These candy good too.
Adult: Are they good?
Ben: Yes. I like they. You like they?

Ben is not resisting the adult because of obstinacy. He does repeat “I like them” when asked to do so. But when given the opportunity afterward to construct the object *them*, he reverts to using the subjective form *they*. Ben is likely at this period in his development to use his (erroneous) understanding of syntax spontaneously to actively produce his own language, rather than just imitate a model.

**The Role of Reinforcement**

B. F. Skinner (1957) allowed that prelinguistic vocalizations such as cooing and babbling may be inborn. But parents reinforce children for babbling that approximates the form of real words, such as *da*, which, in English, resembles *dog* or *daddy*. Children, in fact, do increase their babbling when it results in adults smiling at them, stroking them, and talking back to them. As the first year progresses, children babble the sounds of their native tongues with increasing frequency; foreign sounds tend to drop out. The behaviorist explains this pattern of changing frequencies in terms of reinforcement of the sounds of the adults’ language and **extinction** of foreign sounds.

Another (nonbehavioral) explanation is that children actively attend to the sounds in their linguistic environments and are intrinsically motivated to utter them.

From Skinner’s perspective, children acquire their early vocabularies through **shaping**. That is, parents require that children’s utterances be progressively closer to actual words before they are reinforced. In support of Skinner’s position, research has shown that reinforcement accelerates the growth of vocabulary in children (August et al., 2005; Kroeger & Nelson, 2006).

But recall Ben’s refusal to be shaped into correct syntax. If the reinforcement explanation of language development were sufficient, parents’ reinforcement would facilitate children’s learning of syntax and pronunciation. However, parents are more likely to reinforce their children for the accuracy, or “truth value,” of their utterances than for their grammatical correctness (Brown, 1973). The child who points down and says “The grass is purple” is not likely to be reinforced, despite correct syntax. But the enthusiastic child who shows her empty plate and blurts out “I eated it all up” is likely to be reinforced, despite the grammatical incorrectness of “eated.”

Selective reinforcement of children’s pronunciation can also backfire. Children whose parents reward proper pronunciation but correct poor pronunciation develop vocabulary more slowly than children whose parents are more tolerant about pronunciation (Nelson, 1973).

Learning theory also cannot account for the invariant sequences of language development and for children’s spurts in acquisition. The types of questions used, passive versus active sentences and so on, all emerge in the same order.

On the other hand, aspects of the child’s language environment do influence the development of language. Studies show that language growth in young children is enhanced when adults (Tamis-LeMonda et al., 2006):

- Use a simplified form of speech known as “Motherese.”
- Use questions that engage the child in conversation.
- Respond to the child’s expressive language efforts in a way that is “attuned”; for example, adults relate their speech to the child’s utterance by saying “Yes, your doll is pretty” in response to the child’s statement “My doll.”
- Join the child in paying attention to a particular activity or toy.
- Gesture to help the child understand what they are saying.
- Describe aspects of the environment occupying the infant’s current focus of attention.

You can advance children’s development of pronunciation by correcting their errors. Maybe, but their vocabulary will not develop as rapidly if you focus on pronunciation.
psycholinguistic theory: The view that language learning involves an interaction between environmental influences and an inborn tendency to acquire language.

language acquisition device (LAD): Neural “prewiring” that eases the child’s learning of grammar.

surface structure: The superficial grammatical construction of a sentence.

deep structure: The underlying meaning of a sentence.

aphasia: A disruption in the ability to understand or produce language.

Broca’s aphasia: An aphasia caused by damage to Broca’s area and characterized by difficulty speaking.

Wernicke’s aphasia: An aphasia caused by damage to Wernicke’s area and characterized by impaired comprehension of speech and difficulty producing the right word.

The nativist view of language development holds that inborn factors cause children to attend to and acquire language in certain ways. From this perspective, children bring an inborn tendency in the form of neurological “prewiring” to language learning. According to Steven Pinker and Ray Jackendoff (2005), the structures that enable humans to perceive and produce language evolved in bits and pieces. Those individuals who possessed these “bits” and “pieces” were more likely to reach maturity and transmit their genes from generation to generation because communication ability increased their chances of survival.

The inborn tendency primes the nervous system to learn grammar. On the surface, languages differ much in vocabulary and grammar. Chomsky labels these elements the surface structure of language. However, Chomsky believes that the LAD serves children all over the world because languages share a “universal grammar”—an underlying deep structure or set of rules for transforming ideas into sentences. From Chomsky’s perspective, children are genetically prewired to attend to language and deduce the rules for constructing sentences from ideas. That is, it appears that children are prewired to listen to language in such a way that they come to understand rules of grammar.

Brain Structures Involved in Language

Many parts of the brain are involved in language development; however, some of the key biological structures that may provide the basis for the functions of the LAD are based in the left hemisphere of the cerebral cortex for nearly all right-handed people and for two out of three left-handed people (Pinker, 1994). In the left hemisphere, the two areas most involved in speech are Broca’s area and Wernicke’s area (see Figure 5.4 on page 22). Damage to either area is likely to cause an aphasia—a disruption in the ability to understand or produce language.

Broca’s area is located near the section of the motor cortex that controls the muscles of the tongue and throat and other areas of the face that are used in speech. When Broca’s area is damaged, people speak laboriously in a pattern termed Broca’s aphasia. But they can readily understand speech. Wernicke’s area lies near the auditory cortex and is connected to Broca’s area by nerves. People with damage to Wernicke’s area may show Wernicke’s aphasia, in which they speak freely and with proper syntax but have trouble understanding speech and finding the words to express themselves.

Psycholinguistic Theory

According to psycholinguistic theory, language acquisition involves an interaction between environmental influences—such as exposure to parental speech and reinforcement—and an inborn tendency to acquire language. Noam Chomsky (1988, 1990) labeled this innate tendency a language acquisition device (LAD). Evidence for an inborn tendency is found in the universality of human language abilities; in the regularity of the early production of sounds, even among deaf children; and in the invariant sequences of language development among all languages (Bloom, 1998; Volterra et al., 2004).
Adults influence the language development of infants through the use of baby talk or “Motherese,” known more technically as child-directed speech or infant-directed speech. But “Motherese” is a limiting term, because grandparents, fathers, siblings, and older children also use Motherese when talking to infants (Kidd & Bavin, 2007; Snedeker et al., 2007). In fact, one study found that women often talk to their pets in Motherese (Prato-Previde et al., 2006). Motherese occurs in languages as different as Arabic, English, Comanche, Italian, French, German, Xhosa (an African language), Japanese, and Mandarin Chinese (Nonaka, 2004; Trainor & Desjardins, 2002).

The short, simple sentences and high pitch used in Motherese are more likely to produce a response from the child and enhance vocabulary development than complex sentences and those spoken in a lower pitch. Children who hear their utterances repeated and recast seem to learn from the adults who are speaking to them (Tamis-LeMonda et al., 2001; Trevarthen, 2003). In sum, Motherese may help foster children’s language development.

Motherese has several characteristics:

1. Motherese is spoken slowly, at a higher pitch, and there are pauses between ideas.
2. Sentences are brief.
3. Sentences are simple in grammar.
4. Key words are put at the ends of sentences and are spoken in a higher and louder voice.
5. The diminutive morpheme *y* is frequently added to nouns. *Dad* becomes *Daddy* and *horse* becomes *horsey*.
6. Adults repeat sentences several times using minor variations, as in “Show me your nose.” “Where is your nose?”
7. Motherese includes reduplication. *Yummy* becomes *yummy-yummy*. *Daddy* may alternate with *Da-da*.
8. Vocabulary is concrete, referring, when possible, to objects in the immediate environment. Stuffed lions may be referred to as “kitties.”
9. Objects may be overdescribed by being given compound labels. Rabbits may become “bunny rabbits,” and cats may become “kitty cats.”
10. Parents speak for the children, as in, “We want to take our nap now, don’t we?”

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What’s this?

We interrupt this chapter to introduce another innovative review tool in HDEV.

Each Student Edition of HDEV includes a set of nineteen perforated Review Cards at the very end of the book, one for each chapter. In the left column of the Review Cards students will find summary points arranged by Learning Outcome and supported by diagrams to help them visualize important concepts. The right column contains key terms and definitions as they appear in the chapter.

How your students can use the Review Card:

1. Look over the card to preview the new concepts that they’ll be introduced to in the chapter.
2. Read the chapter to fully understand the material.
3. Go to class (and pay attention).
4. Review the card one more time to make sure they’ve registered the key concepts.
5. Don’t forget, this card is only one of many HDEV learning tools available to help students succeed in your course.
Chapter Outline

1. Cognition, Memory, and Imagination
   - Sensorimotor Stage
   - Cognitive Development
   - Jean Piaget
   - Secondary Circular Reactions
   - Primary Circular Reactions

2. Language Development
   - Early Vocalizations
   - Development of Vocabulary
   - Referential and Expressive Styles in Language
   - The Child's First Words

3. Individual Differences in Intelligence among Infants
   - Use of Visual Recognition Memory
   - Instability of Intelligence Scores Attained in Infancy
   - Testing Infants: Why and with What?

4. Information Processing
   - Imitation: Infant See, Infant Do?
   - Infants' Memory
   - Evaluation of Piaget's Theory
   - Development of Object Permanence

5. Invention of New Means through Mental Combinations
   - Tertiary Circular Reactions
   - Coordination of Secondary Schemes

6. Additional Topics, Projects, and Demonstrations
   - With Addition Additional Topics, Projects, and Demonstrations Not in the Student Textbook

### Learning Outcomes

1. Examine Jean Piaget's studies of cognitive development
2. Discuss the information processing approach
3. Identify individual differences in intelligence among infants
4. Examine language development in children

### Teaching Suggestions

- **Lecture Expander**: Object Permanence in Dogs
  - The text pointed out that certain primates and birds achieve object permanence. Have students read and compose a written summary of Rovee-Collier's article in *Infancy: Cognitive Development*. The text briefly described Rovee-Collier's research into infant memory. However, students may benefit from a more in-depth understanding of her work. This project will familiarize students with the habituation paradigm, object permanence, and the inverted-U relationship between stimulus intensity and habituation.
- **Prep Card**: Chapter 5
  - On Every Prep Card:
    - A list of chapter concepts and key terms
    - A list of chapter learning outcomes
    - A chapter outline
    - A list of chapter figures and tables
    - Lecture expanders
    - Student projects
    - Classroom activities & demonstrations

### KEEP YOUR CLASS FRESH

With additional topics, projects, and demonstrations not in the student textbook.
A part of the brain called the angular gyrus lies between the visual cortex and Wernicke’s area. The angular gyrus “translates” visual information, such as written words, into auditory information (sounds) and sends it on to Wernicke’s area. Problems in the angular gyrus can cause problems in reading because it is difficult for the reader to segment words into sounds (Pugh et al., 2000).

**The Sensitive Period**

Language learning is most efficient during **sensitive periods**, which begin at about 18 to 24 months and last until puberty (Clancy & Finlay, 2001; Uylings, 2006). During these periods, neural development provides plasticity of the brain.

Evidence for a sensitive period is found in recovery from brain injuries in some people. Injuries to the hemisphere that controls language (usually the left hemisphere) can impair or destroy the ability to speak (Werker & Tees, 2005). But before puberty, children suffering left-hemisphere injuries frequently recover a good deal of speaking ability. In young children, left-hemisphere damage may encourage the development of language functions in the right hemisphere. But adaptation ability wanes in adolescence, when brain tissue has reached adult levels of differentiation (Snow, 2006).

The best way to determine whether people are capable of acquiring language once they have passed puberty would be to run an experiment in which one or more children were reared in such severe isolation that they were not exposed to language until puberty. Of course, such an experiment could not be run for ethical reasons. However, the disturbing case history of Genie offers insights into whether there is a sensitive period for language development (Fromkin et al., 2004; LaPointe, 2005).

Genie’s father locked her in a small room at the age of 20 months and kept her there until she was 13 years old. Her social contacts during this period were limited to her mother, who entered the room only to feed Genie, and to beatings by her father. When Genie was rescued, she weighed only about 60 pounds, did not speak, was not toilet trained, and could barely stand. She was placed in a foster home, and thereafter her language development followed the normal sequence of much younger children in a number of ways. Five years after her liberation, however, Genie’s language remained largely telegraphic. She still showed significant problems with syntax, such as failing to reverse subjects and verbs to phrase questions.

Genie’s language development provides support for the sensitive-period hypothesis, although her language problems might also be partly attributed to her years of malnutrition and abuse. Her efforts to acquire English after puberty were laborious, and the results were substandard compared even with the language of many 2- and 3-year-olds.

In sum, the development of language in infancy represents the interaction of environmental and biological factors. The child brings a built-in readiness to the task of language acquisition, whereas houseplants and other organisms do not. The child must also have the opportunity to hear spoken language and to interact verbally with others. In the next chapter, we see how interaction with others affects social development.
With HDEV you have a multitude of study aids at your fingertips. After reading the chapters, check out these ideas for further help.

**Chapter in Review cards** include all learning outcomes, definitions, and summaries for each chapter.

**Printable flash cards** give you three additional ways to check your comprehension of key human development concepts.

Other great ways to help you study include **interactive flashcards**, downloadable **study aids, games, quizzes with feedback**, and **PowerVisuals** to test your knowledge of key concepts.

You can find it all at [4ltrpress.cengage.com/hdev](http://4ltrpress.cengage.com/hdev).
Robert Havinghurst believed that each stage of development involved accomplishing certain “tasks.”
Early adulthood generally covers the two decades from ages 20 to 40, although some theorists begin at 17 or 18 and others extend the period to age 44 or 45. The traditional view of development in early adulthood was laid down by developmental psychologist Robert Havighurst (1972) nearly 40 years ago. He believed that each stage of development involved accomplishing certain “tasks,” and the tasks he describes for early adulthood include the following:

1. Getting started in an occupation
2. Selecting and courting a mate
3. Learning to live contentedly with one’s partner
4. Starting a family and becoming a parent
5. Assuming the responsibilities of managing a home
6. Assuming civic responsibilities
7. Finding a congenial social group

Many “sophisticated” young adults will laugh at this list of tasks. Others will think that it doesn’t sound too bad at all. I bring it to your attention simply because it is a traditional view of an ideal world of past generations that ignores some realities of human diversity and contemporary life. For example, many young adults (and older adults) remain single. Many never assume civic responsibilities. Many married couples choose not to have children, and some others are infertile. Gay males and lesbians may have partners, but many do not become parents—and Havighurst was certainly not including them. Nor did Havighurst list separation from one’s family of origin, which we consider next.
LO1 Separation

Young adults leave home at different ages and for different reasons, and some never had a traditional home life to begin with. The typical developmental milestones seem distant to young adults who have spent years in orphanages, bounced about from one foster home to another, or spent time in detention, or in the homes of grandparents or other relatives because their parents could not provide a home (Minkler & Fuller-Thomson, 2005).

Young adults who enter the job market out of high school, or without completing high school, may live at home for a while to save up some money before venturing out on their own. When they do, they may move in with roommates or to a poorer neighborhood than their parents’ so that they can afford independent living. Even so, parents may contribute cash.

Other young adults may leave home to go to college or enlist in the military. If the college students are attending a local college, they may stay at home or move in with roommates so they can afford it. Young adults who attend college away from home do leave, but very often a room is kept for them at home and is relatively untouched. Psychologically, the “nest” remains if and when they need it. Highly traditional or insecure parents may find a son’s or daughter’s leaving for college to be so stressful that departure damages the parent–child relationship (Steele, 2005). The departure tends to be relatively more stressful when the “child” is a daughter.

Those who enlist in the military have their housing needs taken care of. Their rupture from home and neighborhood is sudden and complete, although they can return when they are on leave or their service is finished.

If young adults are working within commuting distance of their homes of origin, even after graduating college, they may return home to live for financial reasons. Entry-level jobs often do not pay well, or the young adult may want to try to save enough to place a down payment on an apartment or a house. It is not uncommon for young adults to get married and then move in with a set of parents. And sometimes a couple who are living together without being married move in with a set of tolerant parents.

SEPARATION–INDIVIDUATION

Whether or not young adults leave the nest, it is time for them to separate from their parents psychologically. Psychologists and educators refer to the relevant processes as separation and individuation—that is, becoming an individual by means of integrating one’s own values and beliefs with those of one’s parents and one’s society.

Most men in our society consider separation and individuation to be key goals of personality development in early adulthood (Blazina et al., 2007). But many psychologists argue that things are somewhat different for women—that for women, the establishment and maintenance of social relationships are also of primary importance (Gilligan et al., 1990; Jordan et al., 1991). Nevertheless, women need to become their own persons in the sense of separating from their mothers (Brockman, 2003). Males are more likely to show a struggle or a fight for independence (Levpušcek, 2006).
The transition to college or to the workplace can play roles in separation and individuation. Employment and financial independence can lessen feelings of connectedness with parents, whereas college or university can maintain these feelings (Buhl et al., 2003). Feelings of connectedness are related to the amount of financial and emotional support students receive from parents (Tanner, 2006).

**LO2 Intimacy versus Isolation**

Erik Erikson was aware that young adults have issues separating from parents. He was a psychoanalyst, and many of the young women who opened their hearts to him complained of difficulties in disappointing mothers whose values were different and usually more traditional than their own. However, Erikson focused on one central conflict for each stage of life, and the core conflict he chose for early adulthood was **intimacy versus isolation.**

Erikson (1963) saw the establishment of intimate relationships as the key “crisis” of early adulthood. Young adults who have evolved a firm sense of identity during adolescence are now ready to “fuse” their identities with those of other people through marriage and abiding friendships. Erikson warned that we might not be able to commit ourselves to others until we have achieved ego identity, or established stable life roles. Lack of identity is connected with the high divorce rate in teenage marriages. Erikson argued that young adults who do not reach out to develop intimate relationships risk retreating into isolation and loneliness.

Erikson, like Havighurst, has been criticized for suggesting that young adults who choose to remain celibate or single are not developing normally (Hayslip et al., 2006). Similarly, Erikson appeared to make similar traditional demands of people in middle and late adulthood.

**LO3 Seasons of Life**

On the basis of their in-depth interviews of adult men and women, Yale psychologist Daniel Levinson and his colleagues (Levinson, 1996; Levinson et al., 1978, 1986), formulated a theory of adult development in which people shape their lives according to the goals they consider to be most important. Levinson considers the ages of 17 to 33 to be the entry phase of adulthood for young men—when they leave their parents’ home, enter the military, college, or the job market, and become emotionally and financially independent. Many young adults also adopt what Levinson calls...
“the dream” — the drive to become someone, to leave their mark on history, which serves as a tentative blueprint for the young adult.

Levinson labeled the ages of 28 to 33 the age-30 transition. For men and women, he found that the late twenties and early thirties are commonly characterized by reassessment: “Where is my life going?” “Why am I doing this?”

Levinson and his colleagues also found that the later thirties were often characterized by settling down or planting roots. At this time, many people felt a need to make a financial and emotional investment in their home. Their concerns became focused on promotion or tenure, career advancement, mortgages, and, in many or most cases, raising their own families.

Today, Levinson’s views sound rather archaic, at least when they are applied to young women (Hayslip et al., 2006). It has become acceptable and widespread for women to lead independent, single lives, for as long as they wish. And, truth be told, the great majority of career women in sizeable American cities simply would not care what anyone thinks about their marital status or living arrangements. And given the mobility young adults have in the United States today, many will not live in places where people frown upon their styles of life.

Attraction

Investigators define feelings of attraction as psychological forces that draw people together. Some researchers find that physical appearance is the key factor in consideration of partners for dates, sex, and long-term relationships (Wilson et al., 2005). We might like to claim that sensitivity, warmth, and intelligence are more important to us, but we may never learn about other people’s personalities if they do not meet minimal standards for attractiveness (Langlois et al., 2000; Strassberg & Holty, 2003).

Is Beauty in the Eye of the Beholder?

Are our standards of beauty subjective, or is there broad agreement on what is attractive? In certain African tribes, long necks and round, disk-like lips are signs of feminine beauty. Women thus stretch their necks and lips to make themselves more appealing (Ford & Beach, 1951).

In our culture, taller men are considered to be more attractive by women (Kurzban & Weeden, 2005; Paw-
Chapter 14: Early Adulthood: Social and Emotional Development

Lowski & Koziel, 2002). Undergraduate women prefer their dates to be about 6 inches taller than they are. Undergraduate men, on the average, prefer women who are about 4 1/2 inches shorter (Gillis & Avis, 1980). Tall women are not viewed so positively.

In our culture, “thin is in,” especially for females (Furnham et al., 2005; Wilson et al., 2005). Most men in our society are attracted to women with ample bustlines (Hill et al., 2005). In one study, men rated a continuum of female figures that differed only in the size of the bust (Thompson & Tantleff, 1992). Men preferred women with larger but not “huge” busts.

An experiment manipulated men’s voices and asked women to rate them for attractiveness. Women at the fertile phase of the menstrual cycle found men with more “masculine”—deeper—voices to be more attractive (Feinberg et al., 2006).

Nonphysical Traits Affect Perceptions of Physical Beauty

Although there are physical standards for beauty in our culture, nonphysical traits also affect our perceptions. For example, the attractiveness of a partner is likely to be enhanced by traits such as familiarity, liking, respect, and sharing of values and goals (Kniffin & Wilson, 2004). People also rate the attractiveness of faces higher when they are smiling than when they are not smiling (O’Doherty et al., 2003).

Are Preferences Concerning Attractiveness Inborn?

Evolutionary psychologists believe that evolutionary forces favor the continuation of sex differences in preferences for

<table>
<thead>
<tr>
<th>TABLE 14.1</th>
<th>Sex Differences in Preferences for Mates</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOW WILLING WOULD YOU BE TO MARRY SOMEONE WHO—</td>
<td>MEN</td>
</tr>
<tr>
<td>Was not “good looking”?</td>
<td>3.41</td>
</tr>
<tr>
<td>Was older than you by 6 or more years?</td>
<td>4.15</td>
</tr>
<tr>
<td>Was younger than you by 6 or more years?</td>
<td>4.54</td>
</tr>
<tr>
<td>Was not likely to hold a steady job?</td>
<td>2.73</td>
</tr>
<tr>
<td>Would earn much less than you?</td>
<td>4.60</td>
</tr>
<tr>
<td>Would earn much more than you?</td>
<td>5.19</td>
</tr>
<tr>
<td>Had more education than you?</td>
<td>5.22</td>
</tr>
<tr>
<td>Had less education than you?</td>
<td>4.67</td>
</tr>
<tr>
<td>Had been married before?</td>
<td>3.35</td>
</tr>
<tr>
<td>Already had children?</td>
<td>2.84</td>
</tr>
<tr>
<td>Was of a different religion?</td>
<td>4.24</td>
</tr>
<tr>
<td>Was of a different race?</td>
<td>3.08</td>
</tr>
</tbody>
</table>


*Difference statistically significant at the .01 level of confidence.
**Difference statistically significant at the .001 level of confidence.

People are considered to be more attractive when they are smiling. Studies seem to indicate that this is true.

Sex Differences in Perceptions of Attractiveness

Gender-role expectations may affect perceptions of attractiveness. For example, women are more likely to be attracted to socially dominant men than men are to be attracted to socially dominant women (Buunk et al., 2002). Women who viewed videos of prospective dates found men who acted outgoing and self-expressive more appealing than men who were passive (Riggio & Woll, 1984). Yet men who viewed videos in the Riggio and Woll (1984) study were put off by outgoing, self-expressive behavior in women.

Susan Sprecher and her colleagues (1994) surveyed a nationally representative sample of more than 13,000 English- or Spanish-speaking adults living in the United States. In one section of their questionnaire, they asked respondents how willing they would be to marry someone who was older, younger, of a different religion, not likely to hold a steady job, not good-looking, and so forth. Each item was followed by a 7-point scale in which 1 meant “not at all” and 7 meant “very willing.” As shown in Table 14.1, women were more willing than men to marry someone who was not good looking. On the other hand, women were less willing to marry someone not likely to hold a steady job.
mates because certain preferred traits provide reproductive advantages (Buss, 2005). Some physical features, like cleanliness, good complexion, clear eyes, good teeth, good hair, firm muscle tone, and a steady gait are universally appealing to both females and males. Perhaps they are markers of reproductive potential (Buss, 2005). Age and health may be relatively more important to a woman’s appeal, because these characteristics tend to be associated with her reproductive capacity: the “biological clock” limits her reproductive potential. Physical characteristics associated with a woman’s youthfulness, such as smooth skin, firm muscle tone, and lustrous hair, may thus have become more closely linked to a woman’s appeal (Buss, 2005). A man’s reproductive value, however, may depend more on how well he can provide for his family than on his age or physical appeal. The value of men as reproducers, therefore, is more intertwined with factors that contribute to a stable environment for child rearing—such as economic status and reliability. Evolutionary psychologists argue that these sex differences in mate preferences may have been passed down through the generations as part of our genetic heritage (Buss, 2005).

**The Attraction–Similarity Hypothesis: Do “Opposites Attract” or “Do Birds of a Feather Flock Together”?**

Do not despair if you are less than exquisite in appearance, along with most of us mere mortals. You may be saved from permanently blending in with the wallpaper by the effects of the attraction–similarity hypothesis. This hypothesis holds that people tend to develop romantic relationships with people who are similar to themselves in attractiveness and other traits (Klohn & Luo, 2003; Morry & Gaines, 2005).

Researchers have found that people who are involved in committed relationships are most likely to be similar to their partners in their attitudes and cultural attributes (Amodio & Showers, 2005). Our partners tend to be like us in race and ethnicity, age, level of education, and religion.

**Reciprocity: If You Like Me, You Must Have Excellent Judgment**

Has anyone told you that you are good-looking, brilliant, and emotionally mature to boot? That your taste is elegant? Ah, what superb judgment! When we feel admired and complimented, we tend to return these feelings and behaviors. This is called reciprocity. Reciprocity is a potent determinant of attraction (Levine, 2000; Sprecher, 1998). Perhaps the power of reciprocity has enabled many couples to become happy with one another and reasonably well adjusted.

Attraction can lead to feelings of love. Let us now turn to that most fascinating topic.

**LOVE**

The experience of romantic love as opposed to attachment or sexual arousal occurs within a cultural context in which the concept is idealized (Berscheid, 2003, 2006). Western culture has a long tradition of idealizing the concept of romantic love, as represented, for example, in national surveys (Michael et al., 1994) found that:

- The sex partners of nearly 94% of single European American men are European American women.
- About 2% of single European American men are partnered with Latina American women, 2% with Asian American women, and fewer than 1% with African American women.
- The sex partners of nearly 82% of African American men are African American women.
- Nearly 8% of African American men are partnered with European American women. Under 5% are partnered with Latina American women.
- About 83% of the women and men in the study chose partners within 5 years of their own age and of the same or a similar religion.
- Of all the women in the study, not one with a graduate college degree had a partner who had not finished high school.
- Men with a college degree almost never had sexual relationships with women with much more or much less education than they had.
instance, by romantic fairy tales that have been passed down through the generations. In fact, our exposure to the concept of romantic love may begin with hearing those fairy tales, and later perhaps, continue to blossom through exposure to romantic novels, television and film scripts, and the heady tales of friends and relatives.

Researchers have found that love is a complex concept, involving many areas of experience (Berscheid, 2003, 2006). Let us consider two psychological perspectives on love, both of which involve emotional arousal.

Love as Appraisal of Arousal

Social psychologists Ellen Berscheid and Elaine Hatfield (Berscheid, 2003, 2006; Hatfield & Rapson, 2002) define romantic love in terms of a state of intense physiological arousal and the cognitive appraisal of that arousal as love. The arousal may be experienced as a pounding heart, sweaty palms, and butterflies in the stomach when one is in the presence of, or thinking about, one’s love interest. Cognitive appraisal of the arousal means attributing it to some cause, such as fear or love. The perception that one has fallen in love is thus derived from: (1) a state of intense arousal that is connected with an appropriate love object (that is, a person, not an event like a rock concert), (2) a cultural setting that idealizes romantic love, and (3) the attribution of the arousal to feelings of love to the person.

Sternberg’s Triangular Theory of Love

Robert Sternberg’s (2006) “triangular theory” of love includes three building blocks, or components, of loving experiences:

1. **Intimacy:** The experience of warmth toward another person that arises from feelings of closeness and connectedness, and the desire to share one’s inmost thoughts.

2. **Passion:** Intense romantic or sexual desire, accompanied by physiological arousal.

3. **Commitment:** Commitment to maintain the relationship through good times and bad.

Sternberg’s model is triangular in that various kinds of love can be conceptualized in terms of a triangle in which each vertex represents one of the building blocks (Figure 14.1). In Sternberg’s model, couples are well matched if they possess corresponding levels of passion, intimacy, and commitment (Drigotas et al., 1999; Sternberg, 2006). According to the model, various combinations of the building blocks of love characterize different types of love relationships (see Table 14.2 on page 33). For example, infatuation (passionate love) is typified by sexual desire but not by intimacy and commitment.

“Being in love” can refer to states of passion or infatuation, whereas friendship is usually based on shared interests, liking, and respect. Friendship and passionate love do not necessarily overlap. There is nothing that prevents people in love from becoming good friends, however—perhaps even the best of friends. Sternberg’s model recognizes that the intimacy we find in true friendships and the passion we find in love are blended in two forms of love—romantic love and consummate love. These love types differ along the dimension of commitment, however.

Romantic love has both passion and intimacy but lacks commitment. Romantic love may burn brightly and then flicker out. Or it may develop into a more complete love, called consummate love, in which all three components flower. Consummate love is an ideal toward which many Westerners strive. Sometimes a love relationship has both passion and commitment but lacks intimacy. Sternberg calls this *fatuous* (foolish) love. Fatuous love is associated with whirlwind courtships that burn brightly but briefly as the partners realize that they are not well matched. In companionate love, intimacy and commitment are strong, but passion is lacking. Companionate love typifies long-term relationships and marriages in which passion has ebbed but a deep and abiding friendship remains (Hatfield & Rapson, 2002).
Jealousy

Thus was Othello, the Moor of Venice, warned of jealousy in the Shakespearean play that bears his name. Yet Othello could not control his feelings and wound up killing his beloved (and innocent) wife, Desdemona. Partners can become jealous when others show sexual interest in their partners or when their partners show interest in another.

Jealousy can lead to loss of feelings of affection, feelings of insecurity and rejection, anxiety and loss of self-esteem, and feelings of mistrust. Jealousy, therefore, can be one reason that relationships fail. In extreme cases jealousy can cause depression or give rise to spouse abuse, suicide, or, as with Othello, murder (Puente & Cohen, 2003; Vandello & Cohen, 2003).

Many young adults—including many college students—play jealousy games. They let their partners know that they are attracted to other people. They flirt openly or manufacture tales to make their partners pay more attention to them, to test the relationship, to inflict pain, or to take revenge for a partner’s disloyalty.

**FIGURE 14.1**

Sternberg’s Triangular Model of Love

<table>
<thead>
<tr>
<th>Liking</th>
<th>Intimacy alone (true friendships without passion or long-term commitment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Romantic love</td>
<td>Intimacy + Passion (lovers physically and emotionally attracted to each other but without commitment, as in a summer romance)</td>
</tr>
<tr>
<td>Companionable love</td>
<td>Intimacy + Commitment (long-term committed friendship such as a marriage in which the passion has faded)</td>
</tr>
<tr>
<td>Consummate love</td>
<td>Intimacy + Passion + Commitment (a complete love consisting of all three components—an ideal difficult to obtain)</td>
</tr>
<tr>
<td>Fatuous love</td>
<td>Passion + Commitment (commitment based on passion but without time for intimacy to develop—shallow relationship such as a whirlwind courtship)</td>
</tr>
<tr>
<td>Empty love</td>
<td>Commitment alone (commitment to remain together without intimacy or passion)</td>
</tr>
<tr>
<td>Infatuation</td>
<td>Passion alone (passionate, obsessive love at first sight without intimacy or commitment)</td>
</tr>
</tbody>
</table>

O! beware, my lord, of jealousy;
It is the green-ey’d monster...  
William Shakespeare, Othello

**T ✗ T ✗**

Couples can remain in love after passion fades.  
With companionate love, couples can remain “in love” after passion fades.

**T ✓ T ✓**

Jealousy is destructive to a relationship.  
Some milder forms of jealousy may have the positive effect of revealing how much one cares for one’s partner.
Loneliness

Many people start relationships because of loneliness. Loneliness tends to peak during adolescence, when peer relationships are beginning to supplant family ties and individuals are becoming—often—painfully aware of...
how other adolescents may be more successful at making friends and earning the admiration of others. A study of 90 adolescents aged 16 to 18 found that feelings of loneliness were connected with low self-confidence, introversion, unhappiness, and emotional instability (Cheng & Furnham, 2002). Loneliness is also often connected with feelings of depression. A study of 101 dating couples with a mean age of 21 found that poor relationships contributed to feelings of loneliness and to depression—even though the individuals had partners (Segin et al., 2003).

Research shows consistently that social support helps people cope with stress, and that stress can lead to a host of health problems (Pressman et al., 2005). Therefore, it is not surprising that loneliness is connected with physical health problems as well as depression. One study, for example, found that lonely people had higher blood pressure than people who were not lonely (Hawkley et al., 2003). Social isolation has also been shown to predict cancer, cardiovascular disease, and a higher mortality rate (Tomoka et al., 2006).

The causes of loneliness are many and complex. Lonely people tend to have several of the following characteristics: lack of social skills, lack of interest in other people, and lack of empathy (Cramer, 2003). The fear of rejection is often connected with self-criticism of social skills and expectations of failure in relating to others (Vorauer et al., 2003). Lonely people also fail to disclose personal information to potential friends (Solano et al., 1982), are cynical about human nature (for example, seeing people as only out for themselves), and demand too much too soon.

### The Single Life

Being single, not married, is now the most common lifestyle of people in their early 20s. By 2000, one woman in four and three men in ten in the United States 15 years of age and older had never married. Half a century earlier, in 1950, one woman in five and about one man in four aged 15 and above had never been married. The rate of marriages had also fallen off. More than four men in five (84%) in the 20 to 24 age range were unmarried, up from 55% in 1970 (USBC, 2006). By 2000, the number of single women in this age group had doubled to 73% from 36% in 1970 (USBC, 2006).

### Table 14.3

<table>
<thead>
<tr>
<th>YEAR</th>
<th>MALES</th>
<th>FEMALES</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>27.1</td>
<td>25.3</td>
</tr>
<tr>
<td>2000</td>
<td>26.8</td>
<td>25.1</td>
</tr>
<tr>
<td>1990</td>
<td>26.1</td>
<td>23.9</td>
</tr>
<tr>
<td>1980</td>
<td>24.7</td>
<td>22.0</td>
</tr>
<tr>
<td>1970</td>
<td>23.2</td>
<td>20.8</td>
</tr>
<tr>
<td>1960</td>
<td>22.8</td>
<td>20.3</td>
</tr>
<tr>
<td>1950</td>
<td>22.8</td>
<td>20.3</td>
</tr>
</tbody>
</table>


Table M5-2: Estimated Median Age at First Marriage, by Sex.

http://www.census.gov/popeVENT/aeidemog/hh-hvy/m52pdf
rary stage that precedes marriage. As career options for women have expanded, they are not as financially dependent on men as their mothers and grandmothers were.

Being single is not without its problems. Many single people are lonely. Some singles would like to have a steady, meaningful relationship. Others, usually women, worry about their physical safety. Some young adults who are living alone find it difficult to satisfy their needs for intimacy, companionship, and sex. Despite these concerns, most singles are well adjusted.

There is no single “singles scene.” Single people differ in their sexual interests and lifestyles. Many achieve emotional and psychological security through a network of intimate relationships with friends. Many are sexually active and practice serial monogamy (Kulick, 2006). Others have a primary sexual relationship with one steady partner but occasional flings. A few pursue casual sexual encounters. By contrast, some singles remain celibate, either by choice or lack of opportunity. Some choose celibacy for religious reasons, to focus on work or another cause, because they find sex unalluring, or because of fear of STIs.

Members of Silver Ring Thing in Claygate, England display their new rings, as part of the group’s campaign encouraging celibacy before marriage in order to cut the spread of STDs among teens.
Part 5: Middle and late adulthood

Cohabitants are less likely than noncohabitants to say that religion is very important to them (Bramlett & Mosher, 2002). Tradition aside, many cohabitants are simply less committed to their relationships than married people are (Hussain, 2002; Marquis, 2003). Moreover, it is more often the man who is unwilling to make a commitment (Peplau, 2003).

Economic factors also come into play. Young adults may decide to cohabit because of the economic advantages of sharing household expenses. Cohabiting individuals who receive public assistance risk losing support if they get married (Hussain, 2002; Marquis, 2003). College students may cohabit secretly to maintain parental support that they might lose if they were to reveal their living arrangements.

Cohabiting couples may believe that cohabitation will strengthen eventual marriage by helping them iron out the kinks in their relationship. Yet some studies suggest that the likelihood of divorce within 10 years of marriage is nearly twice as great among married couples who cohabited before marriage (Smock, 2000). Why?

We cannot conclude that cohabitation necessarily causes divorce. We must be cautious about drawing causal conclusions from correlational data. Selection factors—the factors that led some couples to cohabit and others not to cohabit—may explain the results (see Figure 14.2). For example, cohabiters tend to be less traditional and less religious than noncohabiters.

### TABLE 14.4
High School Seniors’ Thoughts on Living Together

<table>
<thead>
<tr>
<th>YEAR</th>
<th>BOYS</th>
<th>GIRLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976-1980</td>
<td>44.9</td>
<td>32.3</td>
</tr>
<tr>
<td>1981-1985</td>
<td>47.4</td>
<td>36.5</td>
</tr>
<tr>
<td>1986-1990</td>
<td>57.8</td>
<td>45.2</td>
</tr>
<tr>
<td>1991-1995</td>
<td>60.5</td>
<td>51.3</td>
</tr>
<tr>
<td>1996-2000</td>
<td>65.7</td>
<td>59.1</td>
</tr>
<tr>
<td>2001-2004</td>
<td>64.1</td>
<td>57.0</td>
</tr>
</tbody>
</table>

Number of respondents for each sex for each period is about 6,000 except for 2001–2004, for which it is about 4,500. The overall trend is upward for both sexes.


### FIGURE 14.2
The Relationship between Cohabitation and Risk of Divorce

Does living together before marriage heighten the risk of divorce later on, or do factors that encourage cohabitation also heighten the risk of divorce?

It is a good idea for couples to live together before getting married to test their compatibility. Even so, about 40% of these couples get divorced later on, so “trial marriages” may not provide couples with accurate information.

Nearly half of divorced people who are cohabiting with new partners have children in the household (Bramlett & Mosher, 2002). At least one out of three households with never-married cohabiting couples also have children (Marquis, 2003).

Young adults cohabit for many reasons. Cohabitation, like marriage, is an alternative to living alone. Romantic partners may have deep feelings for each other but not be ready to get married. Some couples prefer cohabitation because it provides an abiding relationship without the legal entanglements of marriage (Hussain, 2002; Marquis, 2003).

Willingness to cohabit is related to less traditional views of marriage and gender roles (Hussain, 2002; Marquis, 2003). For example, divorced people are more likely than people who have never been married to cohabit. Perhaps the experience of divorce leaves some people more willing to share their lives than their bank accounts. Cohabiters are less likely than noncohabiters to say that religion is very important to them (Bramlett & Mosher, 2002). Tradition aside, many cohabiters are simply less committed to their relationships than married people are (Hussain, 2002; Marquis, 2003). Moreover, it is more often the man who is unwilling to make a commitment (Peplau, 2003).

Economic factors also come into play. Young adults may decide to cohabit because of the economic advantages of sharing household expenses. Cohabiting individuals who receive public assistance risk losing support if they get married (Hussain, 2002; Marquis, 2003). College students may cohabit secretly to maintain parental support that they might lose if they were to reveal their living arrangements.

Cohabiting couples may believe that cohabitation will strengthen eventual marriage by helping them iron out the kinks in their relationship. Yet some studies suggest that the likelihood of divorce within 10 years of marriage is nearly twice as great among married couples who cohabited before marriage (Smock, 2000). Why?

We cannot conclude that cohabitation necessarily causes divorce. We must be cautious about drawing causal conclusions from correlational data. Selection factors—the factors that led some couples to cohabit and others not to cohabit—may explain the results (see Figure 14.2). For example, cohabiters tend to be less traditional and less religious than noncohabiters.
(Hussain, 2002; Marquis, 2003), and thus tend to be less committed to the values and interests traditionally associated with the institution of marriage. Therefore, the attitudes of cohabitators and not necessarily cohabitation itself are likely to be responsible for their higher rates of divorce.

LO8 Marriage: Tying the Knot

Marriage remains our most common lifestyle among adults aged 35–44 (see Table 14.5). These are young adults and adults on the entry point to middle adulthood. They are mature enough to have completed graduate school or to have established careers. They are also young enough not to have generally suffered being widowed. Although the overall percentage of American households made up of married couples has been decreasing, most recently from 52% in 2000 to 49.7% in 2005 (Roberts, 2006), two-thirds of American men and women aged 35–44 are married.

WHY DO PEOPLE GET MARRIED?

Even in this era of serial monogamy and cohabitation, people get married. Marriage meets many personal and cultural needs. For traditionalists marriage legitimizes sexual relations. Marriage provides an institution in which children can be supported and socialized. Marriage (theoretically) restricts sexual relations so that a man can be assured—or assume—that his wife’s children are his. Unless one has signed a prenuptial agreement to the contrary, marriage permits the orderly transmission of wealth from one family to another and one generation to another.

Today, because more people believe that premarital sex is acceptable between two people who feel affectionate toward each other, the desire for sex is less likely to motivate marriage. But marriage provides a sense of security and opportunities to share feelings, experiences, and ideas with someone with whom one forms a special attachment. Most young adults agree that marriage is important for people who plan to spend the rest of their lives together (Jayson, 2006).

<table>
<thead>
<tr>
<th>YEAR</th>
<th>MALES</th>
<th>FEMALES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>88.0</td>
<td>87.4</td>
</tr>
<tr>
<td>1970</td>
<td>89.3</td>
<td>86.9</td>
</tr>
<tr>
<td>1980</td>
<td>84.2</td>
<td>81.4</td>
</tr>
<tr>
<td>1990</td>
<td>74.1</td>
<td>73.0</td>
</tr>
<tr>
<td>2000</td>
<td>69.0</td>
<td>71.6</td>
</tr>
<tr>
<td>2005</td>
<td>66.2</td>
<td>67.2</td>
</tr>
</tbody>
</table>

Broadly speaking, many people in the United States today want to get married because they believe that they will be happier. A University of Chicago poll (see Table 14.6) suggests that the majority of them are correct, even if the percentages have deteriorated since the 1970s.

**TYPES OF MARRIAGE**

Among male and female couples, we have two types: monogamy and polygamy. In **monogamy**, a husband and wife are wed only to each other. In polygamy, a person has more than one spouse (of the other sex) and is permitted sexual access to each of them. In gay marriage, an individual is married to someone of the same sex.

**Polygyny** has been the most prevalent form of polygamy among the world’s preliterate societies (Ford & Beach, 1951; Frayser, 1985). **Polyandry** is relatively rare. In polygynous societies, including many Islamic societies, men are permitted to have multiple wives.

**Arranged Marriage**

In the Broadway musical *Fiddler on the Roof*, Tevye, the Jewish father of three girls of marriageable age in nineteenth century Russia, demands that his daughters marry Jewish men to perpetuate their families’ religious and cultural traditions. Traditional societies such as those of modern-day India (Myers et al., 2005) and Pakistan (Zaidi & Shuraydi, 2002) and olden Europe (Seward, 2005) frequently use arranged marriages, in which the families of the bride and groom more or less arrange for the union.

As in *Fiddler*, one of the purposes of arranged marriage is to make certain that bride and groom share similar backgrounds so that they will carry on their traditions. Supporters of arranged marriage also argue that it is wiser to follow family wisdom than one’s own heart, especially since the attraction couples feel is often infatuation and not a deep, abiding love. Proponents also claim a lower divorce rate for arranged marriages than for “self-arranged marriages,” but it must be noted that couples who enter arranged marriages are generally more traditional to begin with.

**Gay Marriage**

In churches and in politics, the debate about homosexuality has focused recently on **gay marriage**—that is, whether gay males and lesbians should be allowed to get married. But in some places today, gay and lesbian couples are getting married. In many other places, where gay marriage is not allowed, they are entering civil unions which provide most of the legal benefits of married life.

At the time this book was written, the Netherlands, Belgium, Spain, Canada and the states of Massachusetts and California have extended full marriage rights to same-sex couples. Committed gay and lesbian couples who cannot get legally married may enter into civil unions, domestic partnerships, or registered partnerships in various places. These offer varying degrees of the benefits of marriage and are available in countries such as Argentina and Brazil in South America; France, Germany, and the United Kingdom in Europe; Australia; and several states in the United States.

<table>
<thead>
<tr>
<th>TABLE 14.6 Happy Marriages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of Married Persons Age 18 and Older Who Said Their Marriages Were “Very Happy,” by Period, United States</td>
</tr>
<tr>
<td><strong>PERIOD</strong></td>
</tr>
<tr>
<td>1973-1976</td>
</tr>
<tr>
<td>1977-1981</td>
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Source: The General Social Survey, conducted by the National Opinion Research Center of the University of Chicago. Reprinted from Whitehead & Popenoe, 2006, Figure 4.
WHOM DO WE MARRY: ARE MARRIAGES MADE IN HEAVEN OR IN THE NEIGHBORHOOD?

Although the selection of a mate is (officially) free in our society, factors such as race, social class, and religion often determine the categories of people within which we seek mates (Laumann et al., 2007). Young adults tend to marry others from the same area and social class. Since neighborhoods are often made up of people from a similar social class, storybook marriages like Cinderella’s are the exception to the rule.

Young adults tend to marry people who are similar in physical attractiveness, attitudes, background, and interests (Blackwell & Lichter, 2004). Young adults are more often than not similar to their mates in height, weight, personality traits, and intelligence, educational level, religion, even in use of alcohol and tobacco (Myers, 2006; Reynolds et al., 2006). Yet more than one third of Asian Americans and Latino and Latina Americans marry outside their racial/ethnic groups, along with about 13% of African Americans and 7% of European Americans (Carey, 2005). The concept of “like marrying like” is termed homogamy. Research shows that marriages between people from similar backgrounds tend to be more stable (Myers, 2006), perhaps because partners are more likely to share values and attitudes (Willetts, 2006).

Most people also tend to follow age homogamy—to select a partner who falls in their own age range, with bridegrooms two to five years older than their wives (Buss, 1994; Michael et al., 1994). But age homogamy reflects the tendency to marry in early adulthood. Persons who marry late or who remarry tend not to select partners so close in age.

MARITAL SATISFACTION

The nature of romantic relationships and the satisfaction of the partners strongly affect the well-being of
each member of the couple at various stages throughout adulthood (Bertoni et al., 2007). An Italian study of married couples found that the partners’ confidence in their ability to influence their relationship for the better contributed to the quality of the marriage (Bertoni et al., 2007). In turn, the quality of the marital relationship appeared to positively affect individual’s physical and psychological health. Another study found that intimacy, which is fueled by trust, honesty, and the sharing of innermost feelings, is strongly connected with marital satisfaction (Patrick et al., 2007). So is the psychological support of one’s spouse.

Satisfaction with one’s career is positively correlated with marital satisfaction, and both of them are related to general life satisfaction (Perrone et al., 2007). Perhaps general tendencies toward happiness (or depression) manifest themselves in various walks of life, including one’s vocational life and one’s romantic relationships. Or perhaps doing very well in one arena can cast a positive glow on other parts of life.

When one marital partner is a heavy drinker and the other is not, marital satisfaction declines over time (Homish & Leonard, 2007). It doesn’t matter which one is the heavy drinker, the man or the woman; in either case, satisfaction declines. Another study followed 172 newly wed couples over four years and found that physical aggression preceded sharp declines in marital satisfaction (Lawrence & Bradbury, 2007). Interestingly, the union was more likely to be dissolved when the woman was the aggressor.

Researchers in one study investigated the effects of infants’ sleep patterns and crying on marital satisfaction in 107 first-time parent couples during the first year following birth. In general, marital satisfaction decreased as the year wore on, and the baby’s crying was apparently the main source of the problem (Meijer & van den Wittenboer, 2007). Parental loss of sleep compounded the difficulties.

Satisfaction in the Relationships of Heterosexual, Gay Male, and Lesbian Couples

Numerous researchers have studied the factors that predict satisfaction in a relationship or the deterioration and ending of a relationship. Much of this research has sought to determine whether there are differences in the factors that satisfy heterosexual and homosexual couples and the interesting finding is that we are hard pressed to find differences. One difference that stands out favors the gay and lesbian couples: they tend to distribute household chores evenly and not in terms of gender role stereotypes (Kurdek, 2005, 2006). Now for the similarities: gay, lesbian, and male – female couples are all more satisfied when they receive social support from their partners, there is sharing of power in the relationship, they fight fair, and they perceive their partners to be committed to the relationship (Mathews et al., 2006; Twist, 2005). But there are a couple of differences that favor stability in the relationships of the male–female couples: they are more likely to have the support of their families and less likely to be stigmatized by society at large.

Parenthood

Becoming a parent is a major life event that requires changes in nearly every sphere of life: personal, social, financial, and academic (Redshaw & van den Akker, 2007). In fact, many individuals and couples in contemporary developed nations no longer think of parenthood as a necessary part of marriage or a relationship (Doherty et al., 2007).

Just as people are getting married in their later 20s in the United States today, so are they delaying parenthood into their later 20s (Arnett, 2007; Popenoe & Whitehead, 2006). And many women do not bear children until they are in their 30s; some in their 40s. But bearing children in developed nations is generally seen as something that ideally occurs in early adulthood, although a few hundred thousand teenage girls bear children in the United States each year.
Why do people have children? Reflect on the fact that reliable birth control methods have separated sex acts from reproduction. Except for women living under the most “traditional” circumstances or for couples who make a “mistake,” becoming pregnant is a choice. In developed nations, most couples report that they choose to have children for personal happiness or well-being (Dyer, 2007). In more traditional societies people report having children to strengthen marital bonds, provide social security, assist with labor (as in having more farm hands), provide social status, maintain the family name and lineage, secure property rights and inheritance, and in some places, improve the odds of—yes—reincarnation (Dyer, 2007). Of these reasons, having children to care for one in one’s old age (“social security”) looms large. In the United States, government social security helps support older people, but how many middle-aged people (typically daughters) are running in one direction to rear their children and in another direction to provide emotional and other supports for elderly parents and other relatives?

It is actually unlikely that having a child will save a marriage. Numerous studies show that with the added stress of caring for a new baby, the quality of a couple’s adjustment often declines significantly throughout the year following delivery (e.g., Lawrence et al., 2007; Simonelli et al., 2007).

**PARENTHOOD AND ROLE OVERLOAD**

Some research has focused on the effects of newborns entering the lives of working class families, especially when the mother must return to work shortly after the birth (e.g., Perry-Jenkins et al., 2007). In such cases, the parents are frequently depressed and conflict often emerges. Although fathers in such cases may give lip service to helping with the baby and do a few things to help out here and there, the mother is almost always the primary caregiver (Wall & Arnold, 2007) and thus encounters role overload. That is, the mother suffers from playing roles as both primary caregiver and, in our demanding economy, one of two primary breadwinners.

Yet a longitudinal study of 45 couples expecting their first child showed that family life does not have to be this stressful (McHale & Rotman, 2007). The couples were assessed during pregnancy and from infancy through toddlerhood—at 3, 12, and 30 months after birth. When the parents generally agreed on their beliefs about parenting, and who should do what, their postnatal adjustment was largely solid and remained stable. In other words, if each member of the couple believed they should share caregiving equally and they lived up to it, their adjustment was good. If they believed that one parent should be primarily responsible for caregiving and abided by that scenario, adjustment was also good. Consistency between their expressed beliefs and their behavior predicted adjustment.

**PARENTHOOD IN DUAL-EARNER FAMILIES**

The financial realities of contemporary life, and the women’s movement, have made the move of women into the workplace the norm in American society. Thus young adults with children, who are married or cohabiting, more often than not make up dual-earner families.

European and American studies find that the mothers in dual-earner families encounter more stress than the fathers do (Schneewind & Kupsch, 2007; Wall, 2007). Evidence of a powerful sex difference in dual-earner families is also found in analysis of
longitudinal survey data on 884 dual-earner couples (Chesley & Moen, 2006). Caring for children was connected with declines in well-being for dual-earner women, but, ironically, with increases in well-being for dual-earner men. Perhaps the men were relieved of much stress by the second income. Dual-earner women with flexible work schedules encountered less stress than women with fixed schedules, apparently because they were more capable of managing their role overload.

What happens in the workplace doesn’t necessarily stay in the workplace. A study of 113 dual-earner couples found that problems in the workplace contributed to tension in the couples, health problems, and dissatisfaction with the relationship (Matthews et al., 2006).

Because of problems balancing work and family life, it is usually the mother and not the father who cuts back on work or drops out of the workforce altogether when dual-earner families can no longer afford to have a parent out of the home (Wall, 2007). Because of experience with dual-earner families around them, a sample of 194 adolescents from dual-earner families generally expected that they (if they were female) or their partners (if they were male) would be the ones to cut back or quit work in the future, at least temporarily, if the couple had a child (Weinschenker, 2006). The responses showed little insight into the problems raised by interrupting careers. On the other hand, the fact that their mothers work did encourage the adolescents—female and male—to say they believed in gender egalitarianism.

Some 40% to 50% of the marriages in the United States end in divorce (Whitehead & Popenoe, 2006). The divorce rate in the United States rose steadily through much of the twentieth century before leveling off in the 1980s. Divorced women outnumber divorced men, in part because men are more likely to remarry.

Why the increase in divorce? Until the mid-1960s, adultery was the only legal grounds for divorce in most states. But no-fault divorce laws have been enacted in nearly every state, allowing a divorce to be granted without a finding of marital misconduct. The increased economic independence of women has also contributed to the divorce rate. More women today have the economic means of breaking away from a troubled marriage. Today, more people consider marriage an alterable condition than in prior generations.

Americans today also want more from marriage than did their grandparents. They expect marriage to be personally fulfilling as well as an institution for family life and rearing children. The most common reasons given for a divorce today are problems in communication and a lack of understanding. Key complaints today include a husband’s criticism, defensiveness, contempt, and stonewalling—not lack of financial support (Carrère et al., 2000; Gottman et al., 1998).

**The Cost of Divorce**

Divorce is usually connected with financial and emotional problems. When a household splits, the resources often cannot maintain the earlier standard of living for each partner. Divorce hits women in the pocketbook harder than men. According to a Population Reference Bureau report, a woman’s household income drops by about 24% (Bianchi & Spain, 1997). A man’s declines by
about 6%. Women who have not pursued a career may have to struggle to compete with younger, more experienced workers. Divorced mothers often face the combined stress of the sole responsibility for child rearing and the need to increase their incomes. Divorced fathers may find it difficult to pay alimony and child support while establishing a new lifestyle.

Divorce can also prompt feelings of failure as a spouse and parent, loneliness and uncertainty about the future, and depression. Married people appear to be better able to cope with the stresses and strains of life, perhaps because they can lend each other emotional support. Divorced and separated people have the highest rates of physical and mental illness (Carrère et al., 2000; Lorenz et al., 2006). They also have high rates of suicide (Donald et al., 2006; Lorant et al., 2005). On the other hand, divorce may permit personal growth and renewal and the opportunity to take stock of oneself and establish a new, more rewarding life. But as noted in the chapter on social and emotional development in middle childhood, children tend to be the biggest losers when parents get a divorce.
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