

CHAPTER

12

Sex Differences and Gender-Role Development

Defining Sex and Gender

Categorizing Males and Females: Gender-Role Standards

Some Facts and Fictions about Sex Differences

Developmental Trends in Gender Typing

Theories of Gender Typing and Gender-Role Development

Focus on Research: Is Biology Destiny? Sex Assignment Catastrophes

Applying Developmental Themes to Sex Differences and Gender-Role Development

WE ALL KNOW THAT there are physical differences between men and women, girls and boys. But what about psychological differences? Are there differences? If so, where do these differences come from? Our biology? Our upbringing?

Throughout my teenage years and undergraduate training, I believed that any psychological differences between men and women were purely due to differences in our upbringing or socialization. Speaking in Piagetian terms (as we learned in Chapter 6), I had a schema for sex differences, and it excluded any notion of biological differences contributing to psychological differences. I held fast to this belief, distorting any evidence to the contrary (or “assimilating,” as Piaget would say).

Then I had my children, and my schema was changed forever. My daughters have very different activity levels, a biological difference that was evident in the womb, and one that characterizes a basic difference between boys (who have higher activity levels, on average) and girls. From the beginning of their lives, this difference affected my daughters’ development. Although I was a first-time parent (and so would think I would react to my daughters similarly), I found myself responding to them quite differently. Debby has a lower activity level and loved to be cuddled; Rachel has a higher activity level and liked to be thrown into the air. Their differences influenced their personalities and their interests. I remember trying to raise them in a gender-neutral environment, giving them both dolls and trucks for special occasions. To my wonder, within a few hours’ time, all the “boy” toys ended up in Rachel’s room and all the “girl” toys ended up in Debby’s.

Although the differences between my daughters were not sex differences, they helped me to understand that some differences between the sexes are indeed biological.

What is your opinion on psychological differences between the sexes? Are you ready to accommodate your scheme on this issue based on the research evidence we will present? Let’s take a look, first by examining what differences actually exist between the sexes, and then examining theoretical explanations for those differences. See if your scheme changes as we go.

Defining Sex and Gender

sex

a person's biological identity: his or her chromosomes, physical manifestations of identity, and hormonal influences.

gender

a person's social and cultural identity as male or female.

Before we begin, it may be helpful to address the issue of terminology, specifically the difference between the terms *sex* and *gender*. Distinguishing between these terms has been an issue of debate in psychology, and the debate is not yet settled (Deaux, 1993; Ruble & Martin, 1998). We will use the term *sex* to refer to a person's biological identity: his or her chromosomes, physical manifestations of identity, and hormonal influences. We will use the term *gender* to refer to a person's social and cultural identity as male or female. With this distinction in mind, let's now begin our discussion of sex differences and gender-role development.

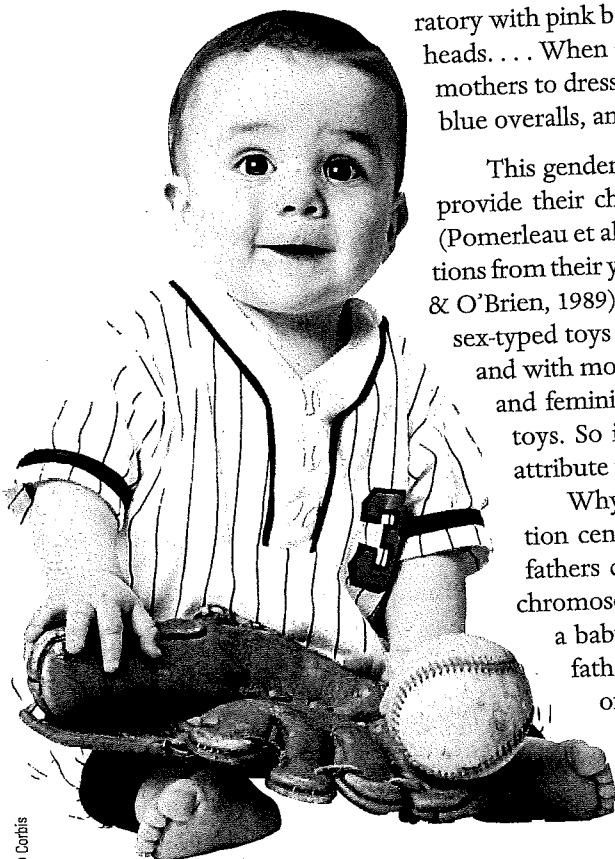
How important is a child's gender to development? Many people would say, "Very important!" Often the first thing parents learn about their baby is his or her sex, and the question "Is it a boy or a girl?" is the very first one that most friends and relatives ask when proud new parents announce the birth of their baby (Intons-Peterson & Reddel, 1984). Indeed, the ramifications of this gender labeling are normally swift in coming and rather direct. In the hospital nursery or delivery room, parents often call an infant son things like "big guy" or "tiger," and they are likely to comment on the vigor of his cries, kicks, or grasps. Infant daughters are more likely to be labeled "sugar" or "sweetie" and described as soft, cuddly, and adorable (Maccoby, 1980; MacFarlane, 1977). A newborn infant is usually blessed with a name that identifies his or her sex, and in many Western societies boys are immediately adorned in blue and girls in pink. Mavis Hetherington and Ross Parke (1975, pp. 354–355) describe the predicament of a developmental psychologist who "did not want her observers to know whether they were watching boys or girls":

Even in the first few days of life some infant girls were brought to the laboratory with pink bows tied to wisps of their hair or taped to their little bald heads. . . . When another attempt at concealment of sex was made by asking mothers to dress their infants in overalls, girls appeared in pink and boys in blue overalls, and "Would you believe overalls with ruffles?"

This gender socialization continues from early in infancy onward as parents provide their children with "gender-appropriate" clothing, toys, and hairstyles (Pomerleau et al., 1990). They also play differently with and expect different reactions from their young sons and daughters (Bornstein et al., 1999; Caldera, Huston, & O'Brien, 1989). For example, parents tend to subtly encourage play with same-sex-typed toys for their daughters and sons. They also play in closer proximity and with more verbal interaction when playing together with their daughters and feminine-sex-typed toys than with their sons and masculine-sex-typed toys. So it is clear that a child's caregivers view gender as an important attribute that often influences how they respond to and care for him or her.

Why do people react differently to males and females? One explanation centers on the biological differences between the sexes. Recall that fathers determine the sex of their children. A zygote that receives an X chromosome from each parent is a genetic (XX) female that develops into a baby girl, whereas a zygote that receives a Y chromosome from the father is a genetic (XY) male that will normally assume the appearance of a baby boy. Could it be that this basic genetic difference between the sexes is ultimately responsible for *sex differences in behavior* that might explain why parents often do not treat their sons and daughters alike? We will explore this interesting idea in some detail in a later section of the chapter.

There is more to sex differences than biology. Virtually all societies expect males and females to behave differently and to assume different roles. To conform to these expectations, the



Gender-role socialization begins very early as parents provide their infants with "gender-appropriate" clothing, toys, and hairstyles.

gender typing

the process by which a child becomes aware of his or her gender and acquires motives, values, and behaviors considered appropriate for members of that sex.

child must understand that he is a boy or that she is a girl and must incorporate this information into his or her self-concept. In this chapter we will concentrate on the interesting topic of **gender typing**—the process by which children acquire not only a gender identity but also the motives, values, and behaviors considered appropriate in their culture for members of their biological sex.

We begin the chapter by summarizing what people generally believe to be true about sex differences in cognition, personality, and social behavior. As it turns out, some of these beliefs have an element of truth to them, although many others are best described as fictions or fables that have no basis in fact. We will then look at developmental trends in gender typing and see that youngsters are often well aware of gender-role stereotypes and are displaying gender-typed patterns of behavior long before they are old enough to go to kindergarten. And how do children learn so much about the sexes and gender roles at such an early age? We will address this issue by reviewing several influential theories that specify how biological forces, social experiences, and cognitive development might combine and interact to influence the gender-typing process. And after examining a perspective that asserts that traditional gender roles have outlived their usefulness in today's modern society, the chapter concludes by considering how the constraining and potentially harmful effects of gender stereotypes might be reduced.

Categorizing Males and Females: Gender-Role Standards

Most of us have learned a great deal about males and females by the time we enter college. In fact, if you and your classmates were asked to jot down 10 psychological dimensions on which men and women are thought to differ, it is likely that every member of the class could easily generate such a list. Here's a head start: Which gender is most likely to display emotions? To be tidy? To be competitive? To use harsh language?

gender-role standard

a behavior, value, or motive that members of a society consider more typical or appropriate for members of one sex.

A **gender-role standard** is a value, a motive, or a class of behavior that is considered more appropriate for members of one sex than for the other. Taken together, a society's gender-role standards describe how males and females are expected to behave and reflect the stereotypes by which we categorize and respond to members of each sex.

expressive role

a social prescription, usually directed toward females, that one should be cooperative, kind, nurturant, and sensitive to the needs of others.

The female's role as childbearer is largely responsible for the gender-role standards and stereotypes that have prevailed in many societies, including our own. Girls have typically been encouraged to assume an **expressive role** that involves being kind, nurturant, cooperative, and sensitive to the needs of others (Conway & Vartanian, 2000; King, 2012; Matlin, 2012). These psychological traits, it was assumed, would prepare girls to play the wife and mother roles, keep the family functioning, and raise children successfully. Boys have been encouraged to adopt an **instrumental role** that involves being dominant, assertive, independent, and competitive. These psychological traits, it was assumed, would prepare boys to play the role of a traditional husband and father, and face the tasks of providing for the family and protecting it from harm. Similar norms and role prescriptions are found in many, though certainly not all, societies (Wade & Tavris, 1999; Williams & Best, 1990). In one ambitious project, Herbert Barry, Margaret Bacon, and Irving Child (1957) analyzed the gender-typing practices of 110 nonindustrialized societies, looking for sex differences in the socialization of five attributes: nurturance, obedience, responsibility, achievement, and self-reliance. As shown in Table 12.1, achievement and self-reliance were more strongly encouraged in young boys, whereas young girls were encouraged to become nurturant, responsible, and obedient (see also Best & Williams, 1997).

instrumental role

a social prescription, usually directed toward males, that one should be dominant, independent, assertive, competitive, and goal oriented.

Children in modern industrialized societies also face strong gender-typing pressures, though not always to the same extent and in the same ways that children in non-industrialized societies do. (An example of a difference among cultures in gender typing is that parents in many Western societies place roughly equal emphasis on achievement for sons and for daughters, thus *not* gender-typing achievement motivation; Lytton,

TABLE 12.1 Sex Differences in the Socialization of Five Attributes in 110 Societies

Attribute	Percentage of societies in which socialization pressures were greater for	
	Boys	Girls
Nurturance	0	82
Obedience	3	35
Responsibility	11	61
Achievement	87	3
Self-reliance	85	0

Note: The percentages for each attribute do not add to 100 because some of the societies did not place differential pressures on boys and girls with respect to that attribute. For example, 18 percent of the societies for which pertinent data were available did not differentiate between the sexes in the socialization of nurturance.

Source: Adapted from "A Cross-Cultural Survey of Some Sex Differences in Socialization," by H. Barry III, M. K. Bacon, & I. L. Child, 1957, *Journal of Abnormal and Social Psychology*, 55, 327–332.

& Romney, 1991). Furthermore, the findings in Table 12.1 do not imply that self-reliance in girls is frowned on or that disobedience by young boys is acceptable. In fact, all five attributes that Barry and his colleagues studied are encouraged in both boys and girls, but with different emphases on different attributes depending on the sex of the child (Pomerantz & Ruble, 1998; Zern, 1984). So it appears that the first goal of socialization is to encourage children to acquire those traits that will enable them to become well-behaved, contributing members of society. A second goal (but one that adults view as important nevertheless) is to "gender type" the child by stressing the importance of relationship-oriented (or expressive) attributes for girls and individualistic (or instrumental) attributes for boys.

Because cultural norms specify that girls should assume an expressive role and boys an instrumental role, we may be inclined to assume that girls and women actually display expressive

traits and that boys and men possess instrumental traits (Brownerman et al., 1972; Williams & Best, 1990). If you assume that these stereotypes have disappeared as attention to women's rights has increased and as more women have entered the labor force, think again. Although some change occurred in the latter half of the 20th century in the direction of more egalitarian gender roles and norms (Botkin, Weeks, & Morris, 2000; Eagly, Wood, & Diekmann, 2000), adolescents and young adults still endorse many traditional stereotypes about men and women (Bergen & Williams, 1991; Lueptow, Garovich-Szabo, & Lueptow, 2001; Twenge, 1997). For example, college students in one study (Prentice & Carranza, 2002) insisted that women ought to be friendly, cheerful, compassionate, emotionally expressive, and patient. They thought women should not be stubborn, arrogant, intimidating, or domineering. They thought that men ought to be rational, ambitious, assertive, athletic, and leaders with strong personalities. They insisted that men should not be emotional, gullible, weak, or approval seeking. Might these beliefs about sex differences have any basis in fact? Let's see if they do.

Some Facts and Fictions About Sex Differences

The old French maxim "Vive la différence" reflects a fact that we all know to be true: males and females are anatomically different. Adult males are typically taller, heavier, and more muscular than adult females, whereas females may be hardier in the sense that they live longer (Giampaoli, 2000). But although these physical variations are fairly obvious, the evidence for sex differences in psychological functioning is not as clear as most of us might think.

Actual Psychological Differences Between the Sexes

In a classic study, which has informed many of our current views on gender stereotypes, Eleanor Maccoby and Carol Jacklin (1974) reviewed more than 1,500 studies comparing males and females. They concluded that few traditional gender stereotypes have any basis in fact. Their review pointed to only four *small* but reliable differences between the sexes that were consistently supported by research. Here are their conclusions, with some updates and amendments.

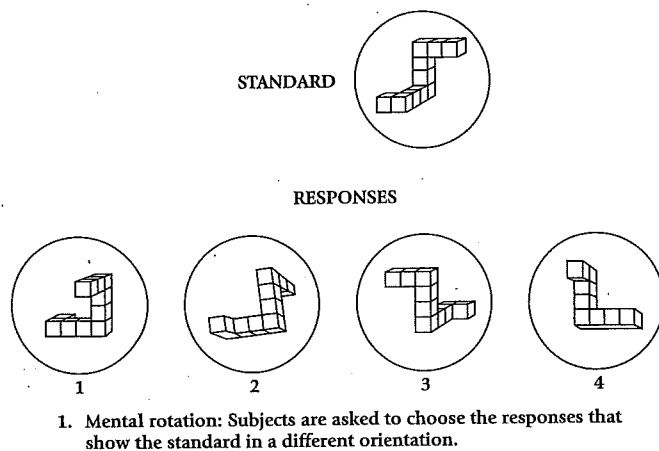
Verbal Ability

One of the differences is that girls display greater verbal abilities than boys on many measures. Girls acquire language and develop verbal skills at an earlier age than boys (Bornstein & Haynes, 1998) and display a small but consistent verbal advantage on tests of reading comprehension and speech fluency throughout childhood and adolescence (Halpern, 2004; Wicks-Nelson & Israel, 2006). Females also outscore males on math tests that require verbal strategies (Gallagher, Levin, & Cahalan, 2002) or are similar to verbal strategies (Halpern, 2004). Boys, however, perform slightly better than girls do on tests of verbal analogies (Lips, 2006).

Visual/Spatial Abilities

Boys outperform girls on tests of **visual/spatial abilities**—that is, the ability to draw inferences about or to otherwise mentally manipulate pictorial information (see ■ Figure 12.1 for a visual/spatial task on which sex differences have been found). The male advantage in spatial abilities is not large, although it is detectable as early as age 4 and persists across the life span (Choi & Silverman, 2003; Halpern, 2004; Levine et al., 1999; Voyer, Voyer, & Bryden, 1995).

visual/spatial abilities
the ability to mentally manipulate or otherwise draw inferences about pictorial information.



■ **Figure 12.1** A spatial task for which sex differences in performance have been found. From "Emergence and Characteristics of Sex Differences in Spatial Ability: A Meta-Analysis," by M. C. Linn & A. C. Petersen, 1985, *Child Development*, 56, 1479–1498. Copyright © 1985 by the Society for Research in Child Development, Inc. Reprinted by permission.

Mathematical Ability

Beginning in adolescence, boys show a small but consistent advantage over girls on tests of *arithmetic reasoning* (Halpern, 1997, 2004; Hyde, Fennema, & Lamon, 1990). Girls actually exceed boys in computational skills and even earn higher grades in math, in part because girls are more inclined than boys are to adopt learning rather than performance goals, thereby working harder to improve their mathematical competencies (Kenney-Benson et al., 2006). Nevertheless, boys feel more self-efficacious in math than girls do (Simpkins, Davis-Kean, & Eccles, 2006) and have acquired more mathematical problem-solving strategies that enable them to outperform girls on complex word problems, geometry, and the mathematics portion of the Scholastic Aptitude Test (SAT) (Byrnes & Takahira, 1993; Casey, 1996; Lips, 2006). The male advantage in mathematical problem solving is most apparent among high math achievers: more males than females are exceptionally talented in math (Lips, 2006; Stumpf & Stanley, 1996). And it seems that sex differences in visual/spatial abilities

and the problem-solving strategies they support contribute to sex differences in arithmetic reasoning (Casey, Nuttall, & Pezaris, 1997). However, we will soon see that social forces—namely, the messages boys and girls receive about their respective abilities—can also influence their mathematical, verbal, and visual/spatial reasoning skills.

Aggression

Boys are more physically and verbally aggressive than girls, starting as early as age 2, and they are about 10 times more likely than girls to be involved in antisocial behavior and violent crime during adolescence (Barash, 2002; Snyder, 2003). Girls are more likely than boys to display covert forms of hostility toward others by snubbing or ignoring them or by trying to undermine their relationships or social status (Crick, Casas, & Mosher, 1997; Crick & Grotpeter, 1995).

Activity Level

Even before they are born, boys are more physically active than girls (Almli, Ball, & Wheeler, 2001), and they remain more active throughout childhood, especially when interacting with peers (Eaton & Enns, 1986; Eaton & Yu, 1989). The heightened activity that boys display may help to explain why they are more likely than girls to initiate and to be receptive to bouts of nonaggressive rough-and-tumble play (Pellegrini & Smith, 1998).

Fear, Timidity, and Risk Taking

As early as the 1st year of life, girls appear to be more fearful or timid in uncertain situations than are boys. They are also more cautious and less assertive in these situations than are boys, taking far fewer risks than do boys (Christopherson, 1989; Feingold, 1994). Sex differences in risk taking may stem, in part, from boys' heightened activity levels. But parental responses to risk taking are also important. Mothers of 6- to 10-year-olds report that they try harder with daughters than with sons to enforce rules against risk taking. Why? Partly because they have had less success at modifying sons' risky behaviors and have concluded that "boys will be boys" and that taking risks is "in their nature" (Morrongiello & Hogg, 2004). Boys continue to take more risks (and to suffer more negative consequences as a result) throughout childhood and adolescence, although girls do engage in some risky behaviors (such as cigarette smoking, binge drinking) about as often as boys do (Blakemore, Berenbaum, & Liben, 2009).



Rough-and-tumble play is more common among boys than among girls.

Developmental Vulnerability

From conception, boys are more physically vulnerable than girls to prenatal and perinatal hazards and to the effects of disease (Raz et al., 1994, 1995). Boys are also more likely than girls are to display a variety of developmental problems, including autism, reading disabilities, speech defects, attention-deficit/hyperactivity disorder, emotional disorders, and developmental delays in cognitive abilities (Halpern, 1997; Holden, 2005; Thompson, Caruso, & Ellerbeck, 2003).

Emotional Expressivity/Sensitivity

As infants, boys and girls do not differ much in their displays of emotion (Brody, 1998). But from toddlerhood onward, boys are more likely than girls to display one emotion—anger—whereas girls more frequently display most other emotions (Fabes et al., 1991; Kochanska, 2001).

Two-year-old girls are already using more emotion-related words than 2-year-old boys (Cervantes & Callanan, 1998), and parents of preschoolers talk more with daughters than with sons about emotions and memorable emotional events (Kuebli, Butler, & Fivush, 1995). Indeed, this social support for reflecting on their feelings may help to explain why girls and women characterize their emotions as deeper, or more intense, and why they feel freer to express them than do boys and men (Fischer et al., 2004; Fuchs & Thelen, 1988; Saarni, 1999; see also Chang et al., 2003).

The evidence for sex differences in nurturance and empathy is mixed. Girls and women consistently rate themselves (and are described by others) as more nurturant and empathic than boys and men (Baron-Cohen, 2003; Feingold, 1994). Yet, laboratory studies designed to induce empathy (by exposing children to others' distress or misfortunes) reveal that boys express nearly as much facial distress and concern and as much physiological arousal to others' misfortunes as girls do (Blakemore, Berenbaum,

& Liben, 2009; Eisenberg & Fabes, 1998). And in naturalistic contexts, boys have been found to be at least as affectionate toward and concerned about the welfare of pets and older relatives as girls are (Melson, Peet, & Sparks, 1991).

Compliance

From early in the preschool period, girls are more compliant than boys with the requests and demands of parents, teachers, and other authority figures (Calicchia & Santostefano, 2004; Smith et al., 2004). And when trying to persuade others to comply with them, girls are especially inclined to rely on tact and polite suggestions (Baron-Cohen, 2003). By comparison boys are more likely than girls to resort to demanding or controlling strategies (Leaper, Tennenbaum, & Shaffer, 1999; Strough & Berg, 2000).

Self-Esteem

Boys show a small edge over girls in global self-esteem (Kling et al., 1999). This sex difference becomes more noticeable in early adolescence and persists throughout adulthood (Robins et al., 2002).

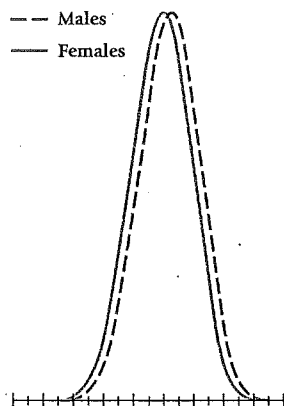
Conclusions

In reviewing the evidence for “real” sex differences, we must keep in mind that the data reflect group averages that may not characterize the behavior of any particular individual. For example, gender accounts for about 5 percent of the variation children display in overt aggressive behaviors (Hyde, 1984), so that the remaining 95 percent is due to other differences between people. The sex differences in verbal, spatial, and mathematical abilities that Maccoby and Jacklin identified are also small, are most apparent at the extremes (that is, very high or very low) ends of the ability distributions (Halpern, 1997, 2004), and may not be evident elsewhere (Lips, 2006; Stetsenko et al., 2000). For example, women do better on tests of mathematical ability in societies such as Israel, where they have excellent opportunities in technical training and technical occupations (Baker & Jones, 1992). Even within the United States, expected sex differences do not emerge in all ethnic groups. For example, Chinese American girls perform as well as Chinese American boys in higher-level mathematics, including the SAT, even though European American boys outperform European American girls on the SAT by about 40 to 50 points (Lips, 2006). Findings such as these imply that most sex differences are not biologically inevitable and that cultural and other social influences play an important role in the development of differences between males and females (Halpern, 1997).

What, then, should we conclude about psychological differences between the sexes? Although contemporary scholars may quibble at times about which sex differences are real or meaningful (Eagly, 1995; Hyde & Plant, 1995), most developmentalists can agree on this: *Males and females are far more psychologically similar than they are different*, and even the most well-documented differences seem to be modest (see ■ Figure 12.2) and subject to qualification (Blakemore et al., 2009). This means it is impossible to predict the aggressiveness, the mathematical skills, the activity level, or the emotional expressivity of any individual simply by knowing his or her gender. Only when group averages are computed do the sex differences emerge.

Cultural Myths

Another conclusion that most developmentalists now endorse is Maccoby and Jacklin's (1974) proposition that many (perhaps most) gender-role stereotypes are “cultural myths” that have no basis in fact. Among the most widely accepted of these “myths” are the notions that females are more sociable, suggestible, and illogical, and less analytical and achievement oriented than males.



Laura Dwight/CORBIS

■ **Figure 12.2** These two distributions of scores—one for males, one for females—give some idea of the size of the gap between the sexes in abilities for which sex differences are consistently found. Despite a small difference in average performance, the scores of males and females overlap considerably. Adapted from “Gender Differences in Mathematics Performance: A Meta-Analysis,” by J. S. Hyde, E. Fennema, & S. J. Lamon, 1990, *Psychological Bulletin*, 107, p. 139–155. Copyright © 1990 by the American Psychological Association. Adapted by permission.

Why do these and so many other inaccuracies persist? Maccoby and Jacklin (1974) propose that

a . . . likely explanation for the perpetuation of "myths" is the fact that stereotypes are such powerful things. An ancient truth is worth restating here: if a generalization about a group of people is believed, whenever a member of the group behaves in the expected way the observer notes it and his belief is confirmed and strengthened; when a member of the group behaves in a way that is not consistent with the observer's expectations, the instance is likely to pass unnoticed, and the observer's generalized belief is protected from disconfirmation. . . . [This] well-documented [selective attention] . . . process . . . results in the perpetuation of myths that would otherwise die out under the impact of negative evidence. (p. 355)

In other words, gender-role stereotypes are well-ingrained cognitive schemes that we use to interpret and often *distort* the behavior of males and females (Martin & Halverson, 1981). People even use these schemas to classify the behavior of infants. In one study (Condry & Condry, 1976), college students watched a videotape of a 9-month-old child who was introduced as either a girl ("Dana") or a boy ("David"). As the students observed the child play, they were asked to interpret his or her reactions to toys such as a teddy bear or a jack-in-the-box. Impressions of the infant's behavior clearly depended on his or her presumed sex. For example, a strong reaction to the jack-in-the-box was labeled "anger" when the child was presumed to be a boy and "fear" when the child had been introduced as a girl (see also Burnham & Harris, 1992).

As it turns out, the persistence of unfounded or inaccurate gender-role stereotypes has important consequences for both boys and girls. Some of the more negative implications of these cultural myths are discussed in the following section.

Do Cultural Myths Contribute to Sex Differences in Ability (and Vocational Opportunity)?

In 1968, Phillip Goldberg asked college women to judge the merits of several scientific articles that were attributed to a male author ("John McKay") or to a female author ("Joan McKay"). Although these manuscripts were identical in every other respect, participants judged the articles written by a male to be of higher quality than those by a female.

These young women were reflecting a belief, common to people in many societies, that girls and women lack the potential to excel in either math and science courses or in occupations that require this training (Eccles, 2004; Eccles, Freeman-Doan, Jacobs, & Yoon, 2000; Tennenbaum & Leaper, 2002). Kindergarten and first-grade girls already believe that they are not as good as boys are in arithmetic; and throughout the grade-school years, children increasingly come to regard reading, art, and music as girls' domains and mathematics, athletics, and mechanical subjects as more appropriate for boys (Eccles et al., 2000; Eccles, Jacobs, & Harold, 1990; Eccles, Wigfield, Harold, & Blumenfeld, 1993). Furthermore, an examination of the percentages of male and female practitioners in various occupations reveals that women are overrepresented in fields that call for verbal ability (such as library science and elementary education) and are seriously underrepresented in most other professions, particularly the sciences and other technical fields (for example, engineering) that require a math/science background (Eccles et al., 2000; National Council for Research on Women, 2002); those imbalances are also seen in Europe (Dewandre, 2002). How do we explain these dramatic sex differences? Are the small sex-related differences in verbal, mathematical, and visual/spatial performances responsible? Alternatively, do gender-role stereotypes create a **self-fulfilling prophecy** that promotes sex differences in cognitive performance and steers boys and girls along different career paths? Today, many developmentalists favor the latter viewpoint. Let's take a closer look.

self-fulfilling prophecy
a phenomenon whereby people cause others to act in accordance with the expectations they have about those others.

Home Influences

Parents may often contribute to sex differences in ability and self-perceptions by treating their sons and daughters differently. Jacquelynne Eccles and her colleagues (1990) have conducted a number of studies aimed at understanding why girls tend to shy away from math and science courses and are underrepresented in occupations that involve math and science. They find that parental expectations about sex differences in mathematical ability do become self-fulfilling prophecies. The plot goes something like this:

- Parents, influenced by gender stereotypes, expect their sons to outperform their daughters in math. Even before their children have received any formal math instruction, mothers in the United States, Japan, and Taiwan express a belief that boys have more mathematical ability than girls (Lummis & Stevenson, 1990).
- Parents attribute their sons' successes in math to *ability* but credit their daughters' successes to *hard work* (Parsons, Adler, & Kaczala, 1982). These attributions further reinforce the belief that girls lack mathematical talent and turn in respectable performances only through plodding effort (see also Pomerantz & Ruble, 1998). Parents often communicate this message in subtle ways. If a child seeking help with her homework hears her mother say "Go see dad; he's the math brain," or hears her dad remark "It's okay, honey; even your mom has trouble with math," she is learning that math is perceived as a male domain for which girls are not well suited (Lips, 2006).
- Children begin to internalize their parents' views, so that boys feel self-confident whereas girls are somewhat more inclined to become anxious or depressed and to underestimate both their general academic abilities (Cole et al., 1999; Stetsenko et al., 2000) and, in particular, their proficiencies in math (Fredricks & Eccles, 2002; Simpkins et al., 2006).
- Thinking they lack ability, girls become less interested in math, less likely to take math courses, and less likely than boys to pursue career possibilities that involve math after high school (Benbow & Arjmand, 1990; Jacobs et al., 2002). Even female college students who perceive themselves to be strong in math and science are less likely than male counterparts are to anticipate future study or careers in these areas (Lips, 2004).

In short, parents who expect their daughters to have trouble with numbers may get what they expect. In their research, Eccles and her colleagues (1990) have ruled out the possibility that parents (and girls themselves) expect less of girls because girls actually do worse in math than boys do. The negative effects of low parental expectancies on girls' self-perceptions are evident even when boys and girls perform *equally well* on tests of math aptitude and attain similar grades in math (Eccles et al., 2000; Fredricks & Eccles, 2002; Tennenbaum & Leaper, 2002). And the lower math expectancies that girls develop undoubtedly help to explain why fewer girls than boys "bounce back" to show good math performance should they begin to underachieve in math (Kowaleski-Jones & Duncan, 1999). Parental beliefs that girls excel in English and that boys excel in sports contribute to sex differences in interests and competencies in these areas as well (Eccles et al., 1990; Fredricks & Eccles, 2002; Tennenbaum & Leaper, 2003).

Scholastic Influences

Teachers also have stereotyped beliefs about the relative abilities of boys and girls in particular subjects. Sixth-grade math instructors, for example, believe that boys have more ability in math but that girls try harder at it (Jussim & Eccles, 1992). And even though these teachers often reward girls' greater efforts by assigning them equal or higher grades than they give to boys (Jussim & Eccles, 1992; Kenney-Benson et al., 2006), their message that girls must try harder to succeed in math may nonetheless convince many girls that their talents might be best directed toward other, nonquantitative achievement domains for which they are better suited, like music or English.

In sum, unfounded beliefs about sex differences in cognitive abilities may indeed contribute to the small sex-related ability differences we have discussed and, ultimately,

to the large underrepresentation of women in the sciences and other occupations requiring quantitative skills. Clearly, the chain of events that Eccles describes is not inevitable. In fact, girls whose parents are nontraditional in their gender-role attitudes and behaviors do not show the declines in math and science achievement that girls from more traditional families are likely to display (Updegraff, McHale, & Crouter, 1996). But even so, girls, to a greater extent than boys, tend to be generalists at school, striving to do well in most or all of their classes. Thus, girls may be less likely to become exceptionally proficient in any subject (particularly in “masculine” subjects like math and science) when their time, energies, and talents are so broadly invested across many academic domains (Denissen, Zarrett, & Eccles, 2007).

Efforts have been made in recent years to educate parents, teachers, and counselors about the subtle ways that unfounded gender stereotypes can undermine the educational and occupational aspirations of talented female students, and there are signs that progress is being made. In one longitudinal study, Eccles and her colleagues (Fredricks & Eccles, 2002; Jacobs et al., 2002) found that by 12th grade, girls valued mathematics as much as boys did and viewed themselves just as competent at it as boys (although the fact remained that both sexes showed declines in their perceived competencies and valuation of math across the high school years). And although women make up only 23 percent of the total science and engineering workforce in the United States today, larger percentages of women than men are entering and graduating from college (Lips, 2006), and women in 2005 earned 49 percent of all law degrees, 47 percent of all medical degrees, and 44 percent of all graduate degrees in engineering and science. Corresponding percentages in 1976 were about 10 percent for science and engineering, 18 percent for law, and 28 percent for medicine (Cynkar,

2007). In 2006, Nancy Pelosi became the first female congressional leader (Speaker of the U.S. House of Representatives), and 2007 witnessed the emergence of the first serious female contender for president of the United States, Senator Hillary Clinton. So there is reason to suspect that many of the constraining stereotypes about women’s competencies will eventually crumble as women succeed, in ever-increasing numbers, in politics, professional occupations, the sciences, skilled trades, and virtually all other walks of life. To oppose such a trend is to waste a most valuable resource: the abilities and efforts of more than half the world’s population.

Now let’s examine the gender-typing process to see why it is that boys and girls may come to view themselves so differently and will often choose to assume different roles.



Girls who often play with visual/spatial toys tend to perform better on tests of spatial ability

Developmental Trends in Gender Typing

gender identity

one’s awareness of one’s gender and its implications.

Gender-typing research has traditionally focused on three separate but interrelated topics: (1) the development of **gender identity**, or the knowledge that one is either a boy or a girl and that gender is an unchanging attribute, (2) the development of *gender-role stereotypes*, or ideas about what males and females are supposed to be like, and (3) the development of *gender-typed patterns of behavior*—that is, the child’s tendency to favor same-sex activities over those normally associated with the other sex.

Development of the Gender Concept

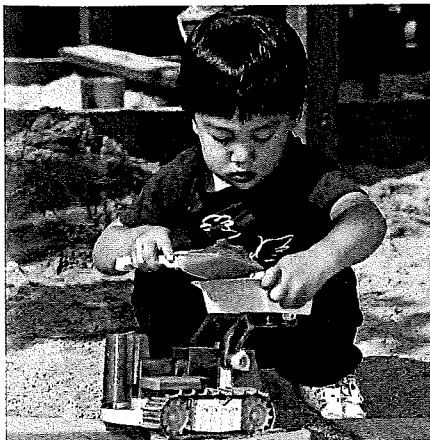
The first step in the development of a gender identity is to discriminate males from females and to place oneself in one of these categories. Simple gender discriminations begin rather early. By 4 months of age, infants have already begun to match male and female voices with faces in tests of intermodal perception (Walker-Andrews et al., 1991); and by the end of the 1st year, they can reliably discriminate still photographs of men and women (Leinbach & Fagot, 1993).

Between ages 2 and 3, children begin to tell us what they know about gender as they acquire and correctly use such labels as “mommy” and “daddy” and (slightly later) “boy” and “girl” (Leinbach & Fagot, 1986). By age 2½ to 3 almost all children can accurately label themselves as either boys or girls (Thompson, 1975; Warin, 2000), although it takes longer for them to grasp the fact that gender is a permanent attribute. Many 3- to 5-year-olds, for example, think that boys could become mommies or girls daddies if they really wanted to, or that a person who changes clothing and hairstyles can become a member of the other sex (Fagot, 1985b; Szkrybalo & Ruble, 1999; Warin, 2000). Children normally begin to understand that sex is an unchanging attribute between the ages of 5 and 7, so that most youngsters have a firm, future-oriented identity as a boy or a girl by the time they enter grade school (Szkrybalo & Ruble, 1999).

Susan Egan and David Perry (2001) have argued that one’s sense of gender identity includes not only the knowledge that “I am a boy/girl and will always be a boy/girl,” but also such judgments as “I am a typical/atypical member of my gender,” “I am content/not content with my biological sex,” “I feel free/not free to explore cross-sex options,” and “I feel that my sex is/is not superior to the other sex.” These latter aspects of gender identity have emerged by the elementary school years and play a meaningful role in influencing a child’s personal and social adjustment.



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By age 2½ to 3, children know that boys and girls prefer different kinds of activities, and they have already begun to play in gender-stereotyped ways.

Development of Gender-Role Stereotypes

Remarkable as it may seem, toddlers begin to acquire gender-role stereotypes at about the same time that they become aware of their basic identities as boys or girls (see, for example, Gelman, Taylor, & Nguyen, 2004). Deanna Kuhn and her associates (1978) showed a male doll (“Michael”) and a female doll (“Lisa”) to 2½- to 3½-year-olds and then asked each child which of the two dolls would engage in sex-stereotyped activities such as cooking, sewing, playing with dolls, trucks, or trains, talking a lot, giving kisses, fighting, or climbing trees. Almost all the 2½-year-olds had some knowledge of gender-role stereotypes. For example, boys and girls agreed that girls talk a lot, never hit, often need help, like to play with dolls, and like to help their mothers with chores such as cooking and cleaning. By contrast, these young children felt that boys like to play with cars, help their fathers, and build things, and are apt to make statements such as “I can hit you” (see also Blakemore, 2003). The 2- to 3-year-olds who know the most about gender stereotypes are those who can correctly label photographs of other children as boys and girls (Fagot, Leinbach, & O’Boyle, 1992).

Over the preschool and early grade-school years, children learn more and more about the toys, activities, and achievement domains considered appropriate for boys and for girls (Blakemore, 2003; Serbin, Powlishta, & Gulko, 1993; Welch-Ross & Schmidt, 1996). Eventually, grade-school children draw sharp distinctions between the sexes on *psychological* dimensions, learning first the positive traits that characterize their own gender and the negative traits associated with the other sex (Serbin, Powlishta, & Gulko, 1993). By age 10 to 11, children’s stereotyping of personality traits begins to rival that of

adults. In one well-known cross-cultural study, Deborah Best and her colleagues (1977) found that fourth and fifth graders in England, Ireland, and the United States generally agreed that women were weak, emotional, soft-hearted, sophisticated, and affectionate, whereas men were ambitious, assertive, aggressive, dominating, and cruel. Later research revealed that these same personality dimensions (and many others) are reliably attributed to men and women by male and female participants from many countries around the world (Williams, Satterwhite, & Best, 1999).

Do children take gender stereotypes seriously and believe that they must conform to these prescriptions? Many 3- to 7-year-olds do; they often reason like little chauvinists, treating gender-role standards as blanket rules that are not to be violated (Banerjee & Lintern, 2000; Biernat, 1991; Ruble & Martin, 1998). Consider the reaction of one 6-year-old to a boy named George who likes to play with dolls:

(Why do you think people tell George not to play with dolls?) Well, he should only play with things that boys play with. The things that he is playing with now is girls' stuff . . . *(Can George play with Barbie dolls if he wants to?)* No sir! . . . *(What should George do?)* He should stop playing with girls' dolls and start playing with G.I. Joe. *(Why can a boy play with G.I. Joe and not a Barbie doll?)* Because if a boy is playing with a Barbie doll, then he's just going to get people teasing him . . . and if he tries to play more, to get girls to like him, then the girls won't like him either. (Damon, 1977, p. 255; italics added)

Why are young children so rigid and intolerant of gender-role transgressions? And why would research from the 1970s still be applicable today? First, gender-related issues are very important to children between ages 3 and 7; and second, despite cultural changes to do with gender norms as adults, the pressure in childhood to adhere to accepted gender schemas persists. It's been almost 40 years since young George was interviewed, yet most girls still play with Barbie and most boys still play with GI Joe—not even the toys have changed! Also, this is the time when they are firmly classifying themselves as boys or girls and beginning to suspect that they will *always be* boys and girls. Thus, they may exaggerate gender-role stereotypes to “get them cognitively clear” so that they can live up to their self-images (Maccoby, 1998).

By age 8 to 9, however, children are becoming more flexible and less chauvinistic in their thinking about gender (Blakemore, 2003; Levy, Taylor, & Gelman, 1995; McHale, Crouter, & Tucker, 2001). Notice how 9-year-old James makes a clear distinction between moral rules that people are obligated to obey and gender-role standards that are customary but *nonobligatory*.

(What do you think his parents should do?) They should . . . get him trucks and stuff, and see if he will play with those. *(What if . . . he kept on playing with dolls? Do you think they would punish him?)* No. *(How come?)* It's not really doing anything bad. *(Why isn't it bad?)* Because . . . if he was breaking a window, and he kept on doing that, they could punish him, because you're not supposed to break windows. But if you want to you can play with dolls. *(What's the difference? . . .)* Well, breaking windows you're not supposed to do. And if you play with dolls, you can, but boys usually don't. (Damon, 1977, p. 263; italics added)

However, just because grade-school children say that boys and girls can legitimately pursue cross-sex interests and activities does not necessarily imply that they *approve* of those who do. When asked about whether they could be friends with a boy who wears lipstick or a girl who plays football and to evaluate such gender-role transgressions, grade-school children (and adults) were reasonably tolerant of violations by girls. However, participants (especially boys) came down hard on boys who behaved like girls, viewing these transgressions as almost as bad as violating a moral rule. Here, then, is an indication of the greater pressure placed on boys to conform to gender roles (Blakemore, 2003; Levy, Taylor, & Gelman, 1995).

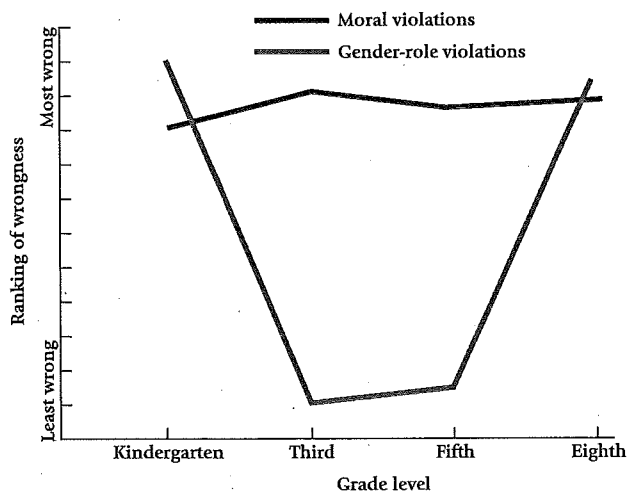


Figure 12.3 Children's rankings of the wrongness of gender-role transgressions (such as a boy's wearing nail polish) and violations of moral rules (such as pushing another child from a swing). Notice that children of all ages deplore immoral acts but that only kindergartners and adolescents view gender-role violations as wrong. Elementary-school children come to think about gender-role standards in a more flexible way than they did earlier in life, but adolescents become concerned about the psychological implications of deviating from one's "proper" gender identity. Adapted from "Children's Concepts of Cross-Gender Activities," by T. Stoddart & E. Turiel, 1985, *Child Development*, 59, 793–814. Copyright © 1985 by the Society for Research in Child Development, Inc. Adapted by permission.

gender intensification

a magnification of sex differences early in adolescence; associated with increased pressure to conform to traditional gender roles.

Cultural Influences

Although 8- to 10-year-olds from Western individualistic societies are becoming more flexible in their thinking about many violations of gender stereotypes, the same pattern may not be apparent elsewhere. In Taiwan, a collectivist society with an emphasis on maintaining social harmony and living up to social expectations, children are strongly encouraged to accept and conform to appropriate gender-role prescriptions. As a result, Taiwanese 8- to 10-year-olds are less accepting of gender-role violations (particularly by boys) than their age-mates from a Western individualistic society (urban Israelis) (Lobel et al., 2001).

Adolescent Thinking about Gender Stereotypes

Thinking about the traits that males and females might display and the hobbies and occupations they might pursue becomes increasingly flexible during early adolescence, as children make the transition from elementary school to middle school. But soon thereafter, gender-role prescriptions once again become less flexible, with both boys and girls showing a strong intolerance of cross-sex mannerisms displayed by either males or females (Alfieri, Ruble, & Higgins, 1996; Sigelman, Carr, & Begley, 1986; Signorella, Bigler, & Liben, 1993; and see Figure 12.3, which graphically depicts this developmental change in children's feelings about gender-stereotyped behavior). How might we explain this second round of gender chauvinism?

Apparently, an adolescent's increasing intolerance of cross-sex mannerisms and behaviors is tied to a larger process of **gender intensification**—a magnification of sex differences that is associated with increased pressure to conform to gender roles as one reaches puberty (Galambos, Almeida, & Petersen, 1990; Hill & Lynch, 1983). Boys begin to see themselves as more masculine; girls emphasize their feminine side (McHale et al., 2001; McHale, Shanahan, et al., 2004). Why might gender intensification occur? Parental influence is one contributor: as children enter adolescence, mothers become more involved in joint activities with daughters and fathers more involved with sons (Crouter, Manke, & McHale, 1995)—especially in families with both sons and daughters, in which each parent may take primary responsibility for properly socializing children of his or her own sex (McHale & Crouter, 2003; Shanahan et al., 2007). However, peer influences may be even more important. Adolescents increasingly find that they must conform to traditional gender norms in order to succeed in the dating scene. A girl who was a tomboy and thought nothing of it may find during adolescence that she must dress and behave in more "feminine" ways to attract boys, and a boy may find that he is more popular if he projects a more sharply "masculine" image (Burn, O'Neil, & Nederend, 1996; Katz, 1979). Social pressures on adolescents to conform to traditional roles may even help explain why sex differences in cognitive abilities sometimes become more noticeable as children enter adolescence (Hill & Lynch, 1983; Roberts et al., 1990). Later in high school, teenagers become more comfortable with their identities as young men or women and more flexible once again in their thinking about gender (Urberg, 1979). Nevertheless, even adults may remain highly intolerant of males who blatantly disregard gender-role prescriptions (Levy, Taylor, & Gelman, 1995).

Development of Gender-Typed Behavior

The most common method of assessing the “gender-appropriateness” of children’s behavior is to observe whom and what they like to play with. Sex differences in toy preferences develop very early—even before the child has established a clear gender identity or can correctly label various toys as “boy things” or “girl things” (Blakemore, LaRue, & Olejnik, 1979; Fagot, Leinbach, & Hagan, 1986; Weinraub et al., 1984). For example, Leif Stennes and colleagues (2005) found that in the early pretend play of 13-month-olds, girls emitted more actions and communication gestures centering on themes of pretending to be a parent, whereas boys’ play actions and gestures were often imitations of such masculine activities as pounding with a hammer or digging with a shovel. Boys aged 14 to 22 months usually prefer trucks and cars to other objects, whereas girls of this age would rather play with dolls and soft toys (Smith & Daglish, 1977). In fact, 18- to 24-month-old toddlers often refuse to play with cross-sex toys, even when there are no other objects available for them to play with (Caldera, Huston, & O’Brien, 1989).

Gender Segregation

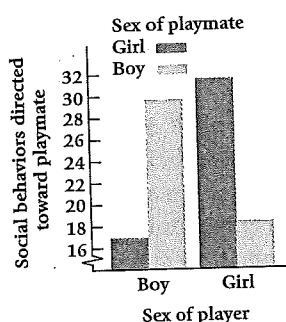
Children’s preferences for same-sex playmates also develop very early. In nursery school, 2-year-old girls already prefer to play with other girls (La Frenière, Strayer, & Gauthier, 1984); and by age 3, boys are reliably selecting boys rather than girls as companions. This **gender segregation**, which has been observed in a variety of cultures (Leaper, 1994; Whiting & Edwards, 1988), becomes progressively stronger with each passing year. Four- and 5-year-olds have already begun to actively *reject* playmates of the other sex (Ramsey, 1995); and by age 6½, children spend more than 10 times as much time with same-sex as with opposite-sex companions (Maccoby, 1998). When a young child does play with other-sex peers, there is usually at least one same-sex comrade present (Fabes, Martin, & Hanish, 2003). Grade-school and preadolescent children generally find cross-gender contacts less pleasing and are likely to behave more negatively toward opposite-sex than same-sex peers (Underwood, Schockner, & Hurley, 2001). Interestingly, even young children believe that it is wrong to exclude a child from such contexts as doll play or playing with trucks on the basis of gender (Killen et al., 2001), but they often do so anyway (see also Brown & Bigler, 2004).

Alan Sroufe and his colleagues (1993) find that those 10- to 11-year-olds who insist most strongly on maintaining clear gender boundaries and who avoid consorting with the “enemy” tend to be viewed as socially competent and popular, whereas children who violate gender segregation rules tend to be much less popular and less well adjusted. In fact, children who display a preference for cross-sex friendships are likely to be rejected by their peers (Kovacs, Parker, & Hoffman, 1996). However, gender boundaries and biases against other-sex companions decline in adolescence when the social and physiological events of puberty trigger an interest in members of the opposite sex (Bukowski, Sippola, & Newcomb, 2000; Serbin, Powlishta, & Gulko, 1993).

Why does gender segregation occur? Eleanor Maccoby (1998) believes that it largely reflects differences between boys’ and girls’ play styles—an incompatibility that may stem from boys’ heightened levels of androgen, which fosters active, rambunctious behavior. In one study (Jacklin & Maccoby, 1978), an adult observer recorded how often pairs of same-sex and mixed-sex toddlers played together or played alone when placed in a playroom with several interesting toys. As we see in ■ Figure 12.4, boys directed far more social responses to boys than to girls, whereas girls were more sociable with girls than with boys. Interactions between playmates in the same-sex pairings were lively and positive in character. In contrast, girls tended to withdraw from boys in the mixed-sex pairs. Boys were simply too boisterous and domineering to suit the taste of many girls, who prefer less roughhousing and would rather rely on polite negotiations rather than demands or shows of force when settling disputes with their playmates (Martin & Fabes, 2001; Moller & Serbin, 1996). Throughout childhood, boys prefer playing or working together in same-sex groups, whereas girls are more likely

gender segregation

children’s tendency to associate with same-sex playmates and to think of the other sex as an out-group.



■ **Figure 12.4** Two- to three-year-old toddlers already prefer playmates of their own sex. Boys are much more social with boys than with girls, whereas girls are more outgoing with girls than with boys. Adapted from “Social Behavior at 33 Months in Same-Sex and Mixed-Sex Dyads,” by C. N. Jacklin & E. E. Maccoby, 1978, *Child Development*, 49, 557–569. Copyright © 1978 by the Society for Research in Child Development, Inc. Adapted by permission.

than boys to withdraw in group settings, choosing instead to focus attention on individuals and functioning best in same-sex *dyads* (Benenson & Heath, 2006). In addition, girls are expected to play quietly and gently and are subject to criticism (by both boys and girls) should they become loud and rough like the boys (Blakemore, 2003).

Cognitive and social-cognitive development also contribute to the increasing gender segregation children display. Once preschoolers label themselves as boys or girls and begin to acquire gender stereotypes, they come to favor the group to which they belong and eventually view the other sex as a homogeneous out-group with many negative characteristics (Martin, 1994; Powlisha, 1995). In fact, children who hold the more stereotyped views of the sexes are most likely to maintain gender segregation in their own play activities and to make few if any opposite-sex friends (Kovacs, Parker, & Hoffman, 1996; Martin, 1994).

Sex Differences in Gender-Typed Behavior

Many cultures, including our own, assign greater status to the male gender role (Blakemore, Berenbaum, & Liben, 2009; Turner & Gervai, 1995), and boys face stronger pressures than girls to adhere to gender-appropriate codes of conduct (Bussey & Bandura, 1992; Lobel & Menashri, 1993). Consider that fathers of baby girls are generally willing to offer a truck to their 12-month-old daughters, whereas fathers of baby boys are likely to withhold dolls from their sons (Snow, Jacklin, & Maccoby, 1983). And boys are quicker than girls to adopt gender-typed toy preferences. Judith Blakemore and her associates (1979), for example, found that 2-year-old boys clearly favor gender-appropriate toys whereas some 2-year-old girls may not. By 18 months to 2 years of age, many children (and more boys than girls) develop *extremely intense* interests in such gender-typed objects and activities as vehicles for boys and dolls or dressing up for girls (DeLoache, Simcock, & Macari, 2007). And by age 3 to 5, boys (1) are much more likely than girls to say that they dislike opposite-sex toys (Bussey & Bandura, 1992; Eisenberg, Murray, & Hite, 1982) and (2) may even prefer a girl playmate who likes "boy" toys to a boy playmate who prefers girls' activities (Alexander & Hines, 1994).

Between the ages of 4 and 10, both boys and girls are becoming more aware of what is expected of them and conforming to these cultural prescriptions (Huston, 1983). Yet, girls are more likely than boys to retain an interest in cross-sex toys, games, and activities. Consider what John Richardson and Carl Simpson (1982) found when recording

the toy preferences of 750 5- to 9-year-olds as expressed in their letters to Santa Claus. Although most requests were clearly gender typed, we see in Table 12.2 that more girls than boys were asking for "opposite-sex" items. With respect to their actual gender-role preferences, young girls often wish they were boys, and nearly half of today's college women claim that they were tomboys when they were young (Burn, O'Neil, & Nederend, 1996). Yet it is unusual for a boy to wish he were a girl (Martin, 1990).

There are probably several reasons that girls are drawn to male activities and the masculine role during middle childhood. For one thing, they are becoming increasingly aware that masculine behavior is more highly valued, and perhaps it is only natural that girls would want to be what is "best" (or at least something other than a second-class citizen) (Frey & Ruble, 1992). Furthermore, girls are given much more leeway than boys are to partake in cross-sex activities; it is okay to be a "tomboy," but it is a sign of ridicule and rejection

TABLE 12.2 Percentages of Boys and Girls Who Requested Popular "Masculine" and "Feminine" Items from Santa Claus

	Percentage of boys requesting	Percentage of girls requesting
Masculine items		
Vehicles	43.5	8.2
Sports equipment	25.1	15.1
Spatial/temporal toys (construction sets, clocks, etc.)	24.5	15.6
Feminine items		
Dolls (adult female)	.6	27.4
Dolls (babies)	.6	23.4
Domestic accessories	1.7	21.7

Source: Adapted from "Children, Gender and Social Structure: An Analysis of the Contents of Letters to Santa Claus," by J. G. Richardson & C. H. Simpson, 1982, *Child Development*, 53, 429–436. Copyright © 1982 by The Society for Research in Child Development, Inc. Adapted with permission.

should a boy be labeled a "sissy" (Martin, 1990). Moreover, fast-moving masculine games and "action" toys may simply be more interesting than the familiar household playthings and pastimes (dolls, dollhouses, dish sets, cleaning and caretaking utensils) often imposed on girls to encourage their adoption of a nurturant, expressive orientation.

In spite of their earlier interest in masculine activities, most girls come to prefer (or at least to comply with) many of the prescriptions for the feminine role by early adolescence (McHale, Shanahan, et al., 2004). Why? Probably for biological, cognitive, and social reasons. Once they reach puberty and their bodies assume a more womanly appearance (*biological growth*), girls often feel the need to become more "feminine" if they hope to be attractive to members of the other sex (Burn, O'Neil, & Nederend, 1996; Katz, 1979). Furthermore, these young adolescents are also attaining formal operations and advanced role-taking skills (*cognitive growth*), which may help to explain why they become (1) self-conscious about their changing body image (Jones, 1965; McCabe & Ricciardelli, 2005); (2) so concerned about other people's evaluation of them (Elkind, 1981; remember the *imaginary audience* phenomenon); and (3) more susceptible to gender intensification pressures and, thus, more inclined to conform to the *social* prescriptions of the female role.

Subcultural Variations in Gender Typing

Although not extensive, research on social-class and ethnic variations in gender typing reveals that (1) middle-class adolescents (but not children) hold more flexible gender-role attitudes than their low-socioeconomic-status peers (Bardwell, Cochran, & Walker, 1986; Canter & Ageton, 1984) and (2) African American children hold less stereotyped views of women than European American children do (Bardwell, Cochran, & Walker, 1986; see also Leaper, Tennenbaum, & Shaffer, 1999).

Researchers have attributed these social-class and ethnic variations in gender typing to differences in education and family life. For example, people from middle-class backgrounds typically have a wider array of educational and occupational options available to them, perhaps explaining why they eventually adopt more flexible attitudes about the roles that men and women should play.

Why might African American children hold less stereotyped views of the sexes? One reason may be that the African American community has historically endorsed more favorable attitudes toward gender equality in the sharing of family responsibilities (King, Harris, & Heard, 2004), so that the behavior of mothers and fathers toward their children may not differ as much as in other ethnic communities. Indeed, Jaipaul Roopnarine and colleagues (2005) recently found that unlike the mother-nurturer/father-playmate roles that parents often assume with infants in European American families, African American fathers are less constrained and are as inclined (or even more so) than mothers to provide their infants with nurturing comfort, vocal stimulation, and lots of affection. As caregivers, their behavior is strikingly similar to that of mothers. What's more, a greater percentage of African American children than European American children are living in single-parent homes and/or have mothers who are employed outside the house (U.S. Bureau of the Census, 2001). So the less stereotyped portrayal of women observed among African American youngsters may also reflect the fact that their mothers are more likely than European American mothers to be assuming both instrumental (male) and expressive (female) functions in their own role as a parent (Leaper, Tennenbaum, & Shaffer, 1999).

Finally, children raised in homes in which parents strive to promote egalitarian sex-role attitudes are indeed less gender-stereotyped than children from traditional families in their *beliefs* about which activities and occupations are appropriate for males and females (Weisner & Wilson-Mitchell, 1990). Nevertheless, these children are quite aware of traditional gender stereotypes and are just as "gender typed" in their toy and activity preferences as children from traditional families.

In sum, gender-role development proceeds at a remarkable pace (Ruble, Martin, & Berenbaum, 2006; and see Table 12.3 for a review). By the time they enter school,

An Overview of Gender Typing

Age in years	Gender identity	Gender stereotyping	Gender-typed behavior
0-2	- Ability to discriminate males from females emerges and improves. - Child accurately labels the self as a boy or a girl.	Some gender stereotypes emerge.	- Gender-typed toy/activity preferences emerge. - Preferences for same-sex playmates emerge (gender segregation).
3-6	Conservation of gender (recognition that one's gender is unchanging) emerges.	Gender stereotyping of interests, activities, and occupations emerges and becomes quite rigid.	- Gender-typed play/toy preferences become stronger, particularly for boys. - Gender segregation intensifies.
7-11	Expansion of gender identity to include perceptions of one's gender typicality and gender contentedness	- Gender stereotyping of personality traits and achievement domains emerges. - Gender stereotyping becomes less rigid.	- Gender segregation continues to strengthen. - Gender-typed toy/activity preferences continue to strengthen for boys; girls develop (or retain) interest in some masculine activities.
12 & beyond	Gender identity becomes more salient, reflecting gender intensification pressures.	- Intolerance of cross-sex mannerisms increases early in adolescence. - Gender stereotyping becomes more flexible in most respects later in adolescence.	- Conformity to gender-typed behaviors increases early in adolescence, reflecting gender intensification. - Gender segregation becomes less pronounced.

CONCEPT CHECK 12.1

Understanding Sex Differences and Gender-Role Development

Check your understanding of important processes in the development of sex differences and gender roles by answering the following questions. Answers appear in the Appendix.

True or False: Identify whether the following statements are true or false.

- (T)(F) Girls show a small but consistent advantage in reading comprehension, compared to boys.
- (T)(F) Boys show a small but consistent advantage in visual/spatial ability, compared to girls.
- (T)(F) Girls show a small but consistent advantage in achievement motivation, compared to boys.

Fill in the Blank: Complete the following phrases with the correct terms.

- The process that seems responsible for young teenagers' renewed intolerance of cross-sex mannerisms is known as _____.
- Our _____ can cause us to distort or misinterpret gender-atypical behaviors that we observe.

Matching: Match the following concepts with the correct definitions below:

- gender-role standard
- gender segregation
- variations in play styles

- A value, motive, or behavior considered more appropriate for members of one sex than the other.
- An attribute that some researchers believe to be responsible for gender segregation.
- An affiliative preference that becomes stronger with age across childhood.

Multiple Choice: Select the correct answer for each question.

- Juanita has a strong sense of herself as a girl, knowing that she will always be a girl regardless of her activities or what she becomes when she grows up. We can assume that Juanita has achieved
 - gender comprehension.
 - gender intensification.
 - gender identity.
- Juan would like to play with dolls, but his father will not allow any dolls in the house. His father expects Juan to play with boys and to adopt a very manly gender identity. Juan will likely adopt such a gender identity because of the forces of
 - self-fulfilling prophecies.
 - gender-role standards.
 - gender intensification.

children have long been aware of their basic gender identities, have acquired many, many stereotypes about how the sexes differ, and have come to prefer gender-appropriate activities and same-sex playmates. During middle childhood, their knowledge continues to expand as they learn more about gender-stereotyped *psychological* traits, and they become more flexible in their thinking about gender roles. Yet their *behavior*, especially if they are boys, becomes even more gender typed, and they segregate themselves even more from the other sex. Now a most intriguing question: How does all this happen so fast?

Theories of Gender Typing and Gender-Role Development

Several theories have been proposed to account for sex differences and the development of gender roles. Some theories emphasize the role of biological differences between the sexes, whereas others emphasize social influences on children. Some emphasize how society influences children, others the choices children make as they try to understand gender and all its implications. Let's briefly examine two biologically oriented theories and then consider the more "social" approaches offered by psychoanalytic theory, social learning theory, cognitive-developmental theory, and gender schema theory.

Evolutionary Theory

Evolutionary psychologists (including, for example, Buss, 1995, 2000; Geary, 1999, 2005) contend that men and women faced different evolutionary pressures over the course of human history and that the natural selection process conspired to create fundamental differences between males and females that determined gender divisions of labor. In Chapter 2, for example, we noted how evolutionary theorists explain different mating strategies favored by men and women to preserve their genes. Males, who need only contribute sperm to produce offspring, can best ensure that their genes survive by mating with multiple partners and producing many children. Females must invest much more to achieve the same objective, taking 9 months from conception to the birth of each child and years to raise each to ensure that their genes survive. To successfully raise children, women presumably evolved in ways that would make them kind, gentle, and nurturant (expressive characteristics) and to prefer men who would display kindness toward them and would provide resources (food and protection) to help ensure children's survival. Men should become more competitive, assertive, and aggressive (instrumental traits) because these attributes should increase their chances of successfully attracting mates and procuring resources.

According to evolutionary theorists (Buss, 1995, 2000), males and females may be psychologically similar in many ways but should differ in any domain in which they have faced different adaptive problems throughout evolutionary history. Consider the male superiority in visual/spatial performance. Spatial skills are essential for hunting; few kills would be made if hunters could not anticipate the trajectory of their spears (or rocks, or arrows) in relation to the path of a moving prey animal. Thus, the pressure to provide food necessary for survival might ensure that males, who were most often the hunter-providers, would develop greater spatial skills than females.

Children share this view that gender is closely linked to biological sex. Consider what Marianne Taylor (1996) found when she interviewed young children using the following story: "Once there was a baby named Chris . . . [who] went to live on a beautiful island . . . [where] there were only boys and men; Chris was the only girl. Chris lived a very happy life on this island, but she never saw another girl or woman" (Taylor, 1996, p. 1559). What would Chris be like?

When Taylor (1996) asked 4- to 10-year-olds to indicate Chris's toy preferences, occupational aspirations, and personality traits, 4- to 8-year-olds assigned stereotypically feminine attributes to her, despite the fact that she was raised in a masculinizing environment and never saw a girl or woman. In other words, preschool and young grade-school children display an *essentialist bias*, assuming that Chris's biological status as a girl will determine what she will become. Only the 9- to 10-year-olds in this study showed any awareness that Chris's masculinizing environment might influence her activities, aspirations, and personality characteristics.

Criticisms of the Evolutionary Approach

The evolutionary account of sex differences and gender typing has been roundly criticized. It applies mainly to sex differences that are consistent across cultures and largely ignores differences that are limited to particular cultures or historical periods (Blake-more et al., 2009). What's more, proponents of the **social roles hypothesis** have argued that psychological sex differences do not reflect biologically evolved dispositions. Instead, they emerge because of variations in (1) roles that cultures *assign* to men and women (provider versus homemaker, for example) and on (2) agreed-upon socialization practices to promote traits in boys and girls (assertion versus nurturance, for example) to properly enact these roles (Eagly, Wood, & Diekmann, 2000). Even many biologically oriented theorists take a softer, less essentialist stance, arguing that biological and social influences interact to determine a person's behaviors and role preferences.

What biological differences between the sexes might be important? For one, males have a Y chromosome and, hence, some genes that all females lack. For another, the sexes clearly differ in hormonal balance, with males having higher concentrations of androgens (including testosterone) and lower levels of estrogen than females do. According to the best-known interactive theory of gender typing, these biological correlates of gender, in concert with important social influences, steer boys and girls toward different patterns of behavior and gender roles. Let's now consider this influential theory.

Money and Ehrhardt's Biosocial Theory of Gender Differentiation and Development

Money and Ehrhardt (1972) proposed that there are a number of critical events that affect a person's eventual preference for the masculine or the feminine gender role. The first critical event occurs at conception as the child inherits either an X or a Y chromosome from the father. Over the next 6 weeks, the developing embryo has only an undifferentiated gonad, and the sex chromosomes determine whether this structure becomes the male testes or the female ovaries. If a Y chromosome is present, the embryo develops testes; otherwise, ovaries form.

These newly formed gonads then determine the outcome of the second event. The testes of a male embryo secrete two hormones: *testosterone*, which stimulates the development of a male internal reproductive system, and *mullerian inhibiting substance* (MIS), which inhibits the development of female organs. In the absence of these hormones, the embryo develops the internal reproductive system of a female.

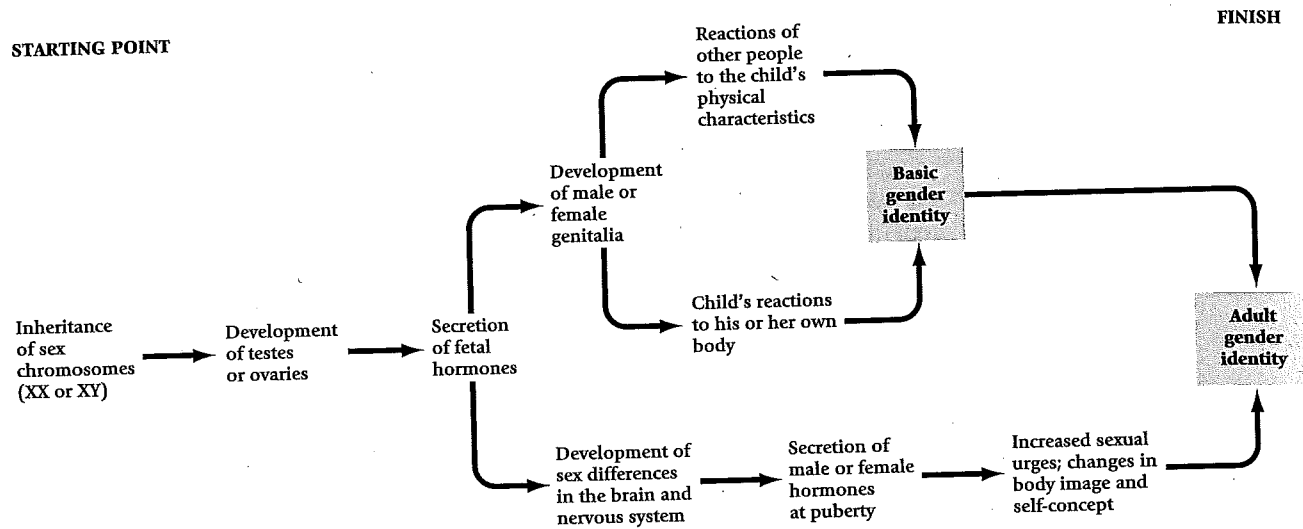
At a third critical point, 3 to 4 months after conception, secretion of testosterone by the testes normally leads to the growth of a penis and scrotum. If testosterone is absent (as in normal females) or if the male fetus has inherited a rare recessive disorder, called **testicular feminization syndrome** (TFS), that makes his body insensitive to male sex hormones, female external genitalia (labia and clitoris) form. Testosterone is also thought to alter the development of the brain and nervous system. For example, it signals the male brain to stop secreting hormones in a cyclical pattern so that males do not experience menstrual cycles at puberty.

social roles hypothesis

the notion that psychological differences between the sexes and other gender-role stereotypes are created and maintained by differences in socially assigned roles that men and women play (rather than attributable to biologically evolved dispositions).

testicular feminization syndrome (TFS)

a genetic anomaly in which a male fetus is insensitive to the effects of male sex hormones and will develop female external genitalia.



■ **Figure 12.5** Critical events in Money and Ehrhardt's biosocial theory of sex typing. *From Man and Women, Boy and Girl, by J. Money & A. Ehrhardt, 1972. Copyright © 1972 by Johns Hopkins University Press. Reprinted by permission.*

Once a child is born, *social* factors immediately come into play. Parents and other people label and begin to react to the child based on the appearance of his or her genitals. If one's genitals are abnormal, so that he or she is mislabeled as a member of the other sex, this incorrect label can affect his or her future development. For example, if a biological male were consistently labeled and treated as a girl (as a boy with TFS syndrome and female external genitalia might be), he would, by about age 2½ to 3, acquire the gender identity (though not the biological characteristics) of a girl. Finally, biological factors enter the scene again at puberty, when large quantities of hormones are released, stimulating the growth of the reproductive system, the appearance of secondary sex characteristics, and the development of sexual urges. These events, in combination with one's earlier self-concept as a male or a female, provide the basis for an adult gender identity and gender-role preference (as depicted in ■ Figure 12.5). But how much is nature and how much is nurture?

Evidence for Biological Influences on Gender-Role Development

How much influence *do* biological factors have on the behavior of males and females? To answer this question, we must consider what investigators have learned about genetic and hormonal influences.

Genetic Influences. Genetic factors may contribute to some sex differences in personality, cognitive abilities, and social behavior. Corrine Hutt (1972), for example, suspected that several of the developmental disorders more commonly seen among boys may be X-linked recessive traits (for example, Fragile X Syndrome, muscular dystrophy, and hemophilia). (Recall from Chapter 2 that boys are more likely to display such traits because they have but one X chromosome and need only inherit one recessive gene to be affected.) Furthermore, **timing of puberty**, a biological variable regulated in part by our genotypes, has a slight effect on visual/spatial performances. Both boys and girls who mature late tend to outperform early maturers of their own sex on some visual/spatial tasks, allegedly because slow maturation promotes increasing specialization of the brain's right hemisphere, which serves spatial functions (see Newcombe & Dubas, 1987). However, later research indicates that the spatial performances of both

timing of puberty effect
the finding that people who reach puberty late perform better on visual/spatial tasks than those who mature early.

boys and girls are more heavily influenced by their *previous involvement* in spatial activities and their *self-concepts* than by the timing of puberty (Levine et al., 1999; Newcombe & Dubas, 1987; Signorella, Jamison, & Krupa, 1989). Specifically, it appears that having a strong masculine self-concept and ample experience with spatial toys and activities fosters the growth of spatial skills in both boys and girls, whereas having restricted spatial experiences and a feminine self-concept seems to inhibit spatial abilities.

How closely are our masculine and feminine self-concepts related to the genes that we have inherited? Results from several behavioral genetics studies of adolescent twins suggest that genotype accounts for about 50 percent of the differences in people's masculine self-concepts but only 0 to 20 percent of the differences in their feminine self-concepts (review Chapter 2 for details on behavioral genetics studies; Loehlin, 1992; Mitchell, Baker, & Jacklin, 1989). So even though genes determine our biological sex and may have some influence on the outcome of gender typing, it appears that at least half the differences in people's masculine and feminine self-concepts is attributable to environmental influences.

Hormonal Influences. Biological influences on development are clearer in studies of children who have been exposed to the "wrong" hormones during the prenatal period (Ehrhardt & Baker, 1974; Gandelman, 1992; Money & Ehrhardt, 1972). Before the consequences were known, some mothers who had had problems carrying pregnancies to term were given drugs containing progestins, which are converted to the male hormone testosterone by the body. Other children with a condition known as **congenital adrenal hyperplasia (CAH)** have a genetic defect that causes their adrenal glands to produce unusually high levels of androgen from the prenatal period onward. These conditions usually have no effect on males; but female fetuses are often masculinized so that, despite their XX genetic endowment and female internal organs, they are born with external genitalia that resemble those of a boy (for example, a large clitoris that looks like a penis and fused labia that resemble a scrotum).

Money and Ehrhardt (1972; Ehrhardt & Baker, 1974) have followed several of these **androgenized females** whose external organs were surgically altered and who were then raised as girls. Compared with their sisters and other girls, many more androgenized girls were tomboys who often played with boys and who preferred boys' toys and activities to traditionally feminine pursuits (see also Berenbaum & Snyder, 1995; Servin et al., 2003). In fact, this strong preference for masculine toys and activities persists over time, even when the mothers of these girls have strongly encouraged more girl-typical play and have praised them lavishly for playing with feminine toys (Pasterski et al., 2005). As adolescents, they began dating somewhat later than other girls and felt that marriage should be delayed until they had established their careers. A high proportion of these females (37 percent) described themselves as homosexual or bisexual (Berenbaum, 1998, 2002; Money, 1985). Androgenized females also perform better than most girls and women on tests of spatial ability, further suggesting that early exposure to male hormones may have "masculinizing" effects on a female fetus's brain (Berenbaum, 1998, 2002; Resnick et al., 1986). Indeed, one Swedish study showed a dose-related effect: girls with more severe cases of CAH (and, thus, greater prenatal exposure to male sex hormones) showed the strongest interest in masculine toys and careers (Servin et al., 2003). Although a skeptic might wonder whether other family members had reacted to the girls' abnormal genitalia early in life, treating those girls more like boys, interviews with girls' parents suggested that they had not (Ehrhardt & Baker, 1974). Even normal variations in girls' exposure to testosterone (produced by their mothers) prior to their birth are associated with girls' play behavior at age 3½: girls exposed to high-normal levels of testosterone before birth show stronger preferences for masculine toys and activities than do female age-mates exposed to lower levels of testosterone (Hines et al., 2002; but see Knickmeyer et al., 2005, for a failure to replicate this finding). So we must seriously consider the possibility that (1) some

congenital adrenal hyperplasia (CAH)
a genetic anomaly that causes one's adrenal glands to produce unusually high levels of androgen from the prenatal period onward; often has masculinizing effects on female fetuses.

androgenized females
females who develop male external genitalia because of exposure to male sex hormones during the prenatal period.

differences between males and females may be hormonally mediated and may reflect the impact of hormones on the organization of the brain (Cahill, 2005), thus implying that (2) heavy prenatal exposure to male sex hormones can influence the attitudes, interests, and activities of human females.

Evidence for Social-Labeling Influences

Although biological forces may steer boys and girls toward different activities and interests, Money and Ehrhardt (1972) insist that social-labeling influences are also important—so important, in fact, that they can modify or even *reverse* biological predispositions.

In the past, some androgenized girls were labeled boys at birth and raised as such until their abnormalities were detected. Money and Ehrhardt (1972) report that the discovery and correction of this condition (by surgery and gender reassignment) present few if any adjustment problems, provided that the sex change occurs *before 18 months of age*. But after age 3, gender reassignment is exceedingly difficult because these genetic females have experienced prolonged masculine gender typing and have already labeled themselves as boys. These data led Money and Ehrhardt to conclude that there is a “critical period” between 18 months and 3 years of age for the establishment of gender identity. As illustrated in the Focus on Research box, it may be more accurate to call the first 3 years a *sensitive* period, for other investigators have claimed that it is possible to assume a new identity later in adolescence. Nevertheless, Money’s findings indicate that early social labeling and gender-role socialization can play a very prominent role in determining a child’s gender identity and role preferences.

Cultural Influences. The fact that most societies encourage instrumental traits in males and expressive traits in females has led some theorists to conclude that traditional gender roles are part of the natural order of things—a product of our bioevolutionary history (Archer, 1996; Buss, 1995). Yet, there are sizable differences across cultures in what people expect of boys and girls (Whiting & Edwards, 1988). Consider Margaret Mead’s (1935) classic study of three tribal societies in New Guinea. *Both* males and females among the Arapesh were taught to be cooperative, nonaggressive, and sensitive to the needs of others. This behavioral profile would be considered “expressive” or “feminine” in Western cultures. *Both* men and women of the Mundugumor tribe were expected to be assertive, aggressive, and emotionally unresponsive in their interpersonal relationships—a masculine pattern of behavior by Western standards. Finally, the Tchambuli displayed a pattern of gender-role development opposite to that of Western

societies: males were passive, emotionally dependent, and socially sensitive, whereas females were dominant, independent, and assertive. So members of these three tribes developed in accordance with the gender roles that were *socially* prescribed by their culture—none of which matched the female/expressive, male/instrumental pattern seen in Western societies. Clearly, social forces contribute heavily to gender typing.

In sum, Money and Ehrhardt’s biosocial theory stresses the importance of early biological developments that influence how parents and other social agents label a child at birth and that possibly also affect behavior more directly. However, the theory also holds that whether children are socialized as boys or as girls strongly influences their gender-role development—in short, that biological and social forces *interact*. But how, exactly, do they interact?



Gender-role behaviors are often specific to one's culture. Like many Peruvian boys, this boy routinely washes clothes and attends to other household tasks.

FOCUS ON RESEARCH

Is Biology Destiny? Sex Assignment Catastrophes

When biological sex and social labeling conflict, which wins out? Consider the case of a male identical twin whose penis was damaged beyond repair during circumcision (Money & Tucker, 1975). After seeking medical advice and considering the alternatives, the parents agreed to a surgical castration to remove all outward evidence of their son's maleness. After the operation, the family began to raise this child as a girl, changing her hairstyle, dressing her in frilly blouses, dresses, and the like, purchasing feminine toys for her to play with, and teaching such feminine behaviors as sitting to urinate. By age 5, the girl twin was described by Money as very different from her genetically identical brother. Allegedly, she knew she was a girl and was far neater and daintier than her brother. Here, then, was a case in which assigned sex and gender-role socialization seemed to overcome biological predispositions. Or did they?

Milton Diamond and Keith Sigmundson (1997) followed up on this "Bruce" turned "Brenda" and found that the story had a twist ending (see also Colapinto, 2000, for a fascinating documentary on this case, including excerpts from interviews with the individual, her parents, brother, and peers). Almost from the beginning, "Brenda" reported that she was never really comfortable with feminine toys and clothing. Brenda preferred her brother's playthings and loved to take things apart to see how they worked. Not knowing of her birth as a male, Brenda at age 10 suspected she was not really a girl. Not only did she have "feelings" for girls and often had fistfights with boys, but "I thought I was a freak or something. . . . But I didn't want to admit it" (pp. 299–300). Being rejected by peers for her somewhat masculine looks also took its toll, as did continued pressures to act more feminine and to submit to surgery to construct a vagina and complete her feminization. Finally, at age 14 and after years of inner turmoil and suicidal thinking, Brenda had had it; she refused vaginal surgery and quit taking female hormones, choosing instead to have a mastectomy, take male hormones, and receive surgery to construct a penis. What emerged was a handsome young man who became very popular, dated girls, married at age 25, and reported that he was thrilled with his hard-won identity as a man (Colapinto, 2000). His story has a tragic ending, however, because he committed suicide at 38 years old (Colapinto, 2004). Perhaps we should back off from the notion that early gender-role socialization is all that matters. Biology matters, too.

A second source of evidence that biology matters is a study of 18 biological males in the Dominican Republic who had a genetic condition (Testicular Feminization Syndrome, or TFS) that made them insensitive prenatally to the effects of male hormones (Imperato-McGinley et al., 1979). They began life with ambiguous genitals and were said to have been labeled and raised as girls. However, under the influence of male hormones produced at puberty, they sprouted beards and became masculine in appearance. How, in light of Money and Ehrhardt's critical-period hypothesis, could a person adjust to becoming a man after leading an entire childhood as a girl?

Amazingly, 16 of these 18 individuals seemed able to accept their late conversion from female to male and to adopt masculine lifestyles, including the establishment of heterosexual relationships. One retained a female identity and gender role, and the remaining individual switched to a male gender

identity but still dressed as a female. Clearly, this study also casts doubt on the notion that socialization during the first three years is absolutely critical to later gender-role development. Instead, it suggests that hormonal influences may be more important than social influences.

However, Imperato-McGinley's conclusions have been challenged (Ehrhardt, 1985). Little information was reported about how these individuals were raised, and it is quite possible that Dominican parents, knowing TFS was common in their society, treated these girls-turned-boys differently from other "girls" when they were young. Furthermore, the girls-turned-boys had genitals that were not completely normal in appearance, and the practice of river bathing in Dominican culture almost certainly means that these youngsters compared themselves to normal girls (and boys) and may have recognized early on that they were "different." So these children may not have received an exclusively feminine upbringing and *may never have fully committed themselves to being girls*. Nor should we automatically assume that their later incorporation of the masculine role was due to hormones. One study of TFS males raised as females among the Sambia of New Guinea found that *social pressures*—namely, the argument that they could not bear children—is what appeared most responsible for the gender switches that occurred after puberty (Herdt & Davidson, 1985).

Finally, another little Canadian boy, whose penis was damaged during circumcision and who was raised as a girl from 7 months of age, has now reached adulthood and continues to live quite comfortably within her *female* gender identity (Bradley et al., 1998). Clearly, biology is not destiny and social influences are important in shaping one's gender identity.

What studies like these of individuals with genital abnormalities appear to teach us is this: We are predisposed by our biology to develop as males or females; the first three years of life are a *sensitive period* perhaps, but not a critical period, for the establishment of gender identity; and *neither* biology nor social labeling can fully account for gender-role development.



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psychobiosocial model

a perspective on nature/nurture interactions specifying that some early experiences affect the organization of the brain, which in turn, influences one's responsiveness to similar experiences in the future.

phallic stage

Freud's third stage of psychosexual development (from 3 to 6 years of age), in which children gratify the sex instinct by fondling their genitals and developing an incestuous desire for the parent of the other sex.

identification

Freud's term for the child's tendency to emulate another person, usually the same-sex parent.

castration anxiety

in Freud's theory, a young boy's fear that his father will castrate him as punishment for his rivalrous conduct.

Oedipus complex

Freud's term for the conflict that 3- to 6-year-old boys were said to experience when they develop an incestuous desire for their mothers and a jealous and hostile rivalry with their fathers.

Electra complex

the female version of the Oedipus complex, in which a 3- to 6-year-old girl was thought to envy her father for possessing a penis and would choose him as a sex object in the hope that he would share with her this valuable organ that she lacked.

A Psychobiosocial Viewpoint

Diane Halpern (1997) proposed a **psychobiosocial model** to explain how nature and nurture might jointly influence the development of gender-typed attributes. According to the model, prenatal exposure to male or female hormones influences the organization of male and female brains in ways that might make boys, for example, somewhat more receptive to spatial activities and girls somewhat more susceptible to quiet verbal exchanges. These heightened sensitivities, in concert with others' beliefs about the kinds of experiences most appropriate for boys and for girls, means that boys are likely to (and actually do) receive a richer array of spatial experiences than girls do, whereas girls will be exposed more often to verbal play activities (see Bornstein et al., 1999). Drawing on advances in the field of cognitive neuroscience, Halpern proposes that the different early experiences that boys and girls have will influence the neural pathways laid down in their immature and highly *plastic* (changeable) brains. Although the genetic code imposes some constraints on brain development, it does not provide specific "wiring" instructions, and the precise architecture of the brain is heavily influenced by the experiences one has (Johnson, 1998). So according to Halpern (1997), boys who receive more early spatial experiences than girls do may develop a richer array of neural pathways in areas of the brain's right cerebral hemisphere that serve spatial functions, which, in turn, may make them ever more receptive to spatial activities and to acquiring spatial skills. Girls may develop a richer array of neural interconnections in areas of the left cerebral hemisphere that serve verbal functions, thereby becoming ever more receptive to verbal activities and to acquiring verbal skills. From a psychobiosocial perspective, then, nature and nurture feed on each other and really cannot be separated. In Halpern's words, "biology and environment are as inseparable as conjoined twins who share a common heart" (p. 1097).

What both biosocial theory and the psychobiosocial model do *not* do is to specify the precise social processes that contribute most heavily to children's emerging gender identities and gender-typed patterns of behavior. Let's turn now to the social theories of gender typing, the first of which was Sigmund Freud's psychoanalytic approach.

Freud's Psychoanalytic Theory

Sigmund Freud thought that sexuality (the sex instinct) was inborn. However, he believed that one's gender identity and preference for a gender role emerge during the **phallic stage** as children begin to emulate and to identify with their same-sex parent. Specifically, Freud claimed that a 3- to 6-year-old boy internalizes masculine attribute and behaviors when he is forced to **identify** with his father as a means of renouncing his incestuous desire for his mother, reducing his **castration anxiety**, and thus resolving his **Oedipus complex**. However, Freud believed that gender typing is more difficult for a young girl who lacks a penis, already feels castrated, and experiences an overriding fear that would compel her to identify with her mother and resolve her **Electra complex**. Why, then, would a girl ever develop a preference for the feminine role? Freud offered several suggestions, one of which was that the object of a girl's affection, her father, was likely to encourage her feminine behavior—an act that increases the attractiveness of the mother, who serves as the girl's model of femininity. So by trying to please her father (or to prepare for relationships with other males after she recognizes the implausibility of possessing her father), a girl is motivated to incorporate her mother's feminine attributes and eventually becomes gender typed (Freud 1924/1961).

Although children are rapidly learning gender stereotypes and developing gender-typed playmate and activity preferences at roughly the ages Freud says they should, his psychoanalytic theory of gender typing has not fared well at all. Many 4- to 6-year-old

are so ignorant about differences between male and female genitalia that it is hard to see how most boys could fear castration or how most girls could feel castrated as Freud says they do (Bem, 1989; Katcher, 1955). Furthermore, Freud assumed that a boy's identification with his father is based on fear; but most researchers find that boys identify more strongly with fathers who are warm and nurturant rather than overly punitive and threatening (Hetherington & Frankie, 1967). Finally, school-age children are not especially similar psychologically to their same-sex parents (Maccoby & Jacklin, 1974). Clearly, these findings are damaging to Freud's notion that children are inspired by fear to acquire gender-typed attributes by identifying with the same-sex parent.

Let's now consider the social learning interpretation of gender typing to see whether this approach looks any more promising.

direct tuition

teaching young children how to behave by reinforcing "appropriate" behaviors and by punishing or otherwise discouraging inappropriate conduct.

observational learning

learning that results from observing the behavior of others.

Social Learning Theory

According to social learning theorists such as Albert Bandura (1989; Bussey & Bandura, 1992, 1999), children acquire their gender identities and gender-role preferences in two ways. First, through **direct tuition**, children are encouraged and rewarded for gender-appropriate behaviors and are punished or otherwise discouraged for behaviors considered more appropriate for members of the other sex. Second, through **observational learning**, children adopt the attitudes and behaviors of a variety of same-sex models.



According to Freud, children become appropriately "masculine" or "feminine" by identifying with the same-sex parent.

Direct Tuition of Gender Roles

Are parents actively involved in teaching boys how to be boys and girls how to be girls? Yes, indeed (Leaper, Anderson, & Sanders, 1998; Lytton & Romney, 1991), and their shaping of gender-typed behaviors begins rather early. Beverly Fagot and Mary Leinbach (1989), for example, found that parents are already encouraging gender-appropriate activities and discouraging cross-gender play during the second year of life, before children have acquired their basic gender identities or display clear preferences for male or female activities. By age 20 months to 24 months, daughters are consistently reinforced for dancing, dressing up (as women), following parents around, asking for help, and playing with dolls; and they are generally discouraged from manipulating objects, running, jumping, and climbing. Sons, on the other hand, are often reprimanded for such "feminine" behaviors as doll play or seeking help and are actively encouraged to play with masculine items such as blocks, trucks, and push-and-pull toys that require large muscle activity (Fagot, 1978).

Are children influenced by the "gender curriculum" their parents provide? They certainly are! Parents who show the clearest patterns of differential reinforcement have children who are relatively quick to (1) label themselves as boys or girls, (2) develop strong gender-typed toy and activity preferences, and (3) acquire an understanding of gender stereotypes (Fagot & Leinbach, 1989; Fagot, Leinbach, & O'Boyle, 1992). And fathers are even more likely than mothers to encourage "gender-typed" behaviors and to discourage behavior considered more appropriate for the other sex (Leve & Fagot, 1997; Lytton & Romney, 1991). So it seems that a child's earliest preferences for gender-typed toys and activities may well result from their parents' (particularly fathers') successful attempts to reinforce these interests.

Throughout the preschool period, parents become less and less inclined to carefully monitor and differentially reinforce their children's gender-typed activities (Fagot &



By encouraging and engaging in counterstereotypic activities, parents may deter their children from developing rigid gender stereotypes.

Hagan, 1991; Lytton & Romney, 1991). Instead, many other factors conspire to maintain these gender-typed interests, including the behavior of siblings and same-sex peers (Beal, 1994; McHale, Crouter, & Tucker, 1999). Peer influences are especially powerful: Even before they have established their basic gender identities, 2-year-old boys often belittle or disrupt each other for playing with girl toys or with girls, and 2-year-old girls are quite critical of other girls who choose to play with boys (Fagot, 1985a). So peers are beginning to differentially reinforce gender-typed attitudes and behaviors even as parents become somewhat less likely to do so. Peers continue to reinforce this gender typing throughout childhood (Martin & Fabes, 2001).

Observational Learning

The second way children acquire many of their gender-typed attributes and interests, according to social learning theory (Bandura, 1989), is by observing and imitating a variety of same-sex models. The assumption is that boys will see which toys, activities, and behaviors are “for boys” and girls will learn which activities and behaviors are “for girls” by selectively attending to and imitating a variety of same-sex models, including peers, teachers, older

siblings, and media personalities, as well as their mothers or their fathers (Fagot, Rodgers, & Leinbach, 2000).

Yet, there is some question as to just how important *same-sex* modeling influences are during the preschool period, for researchers often find that 3- to 6-year-olds learn much about typical patterns of both male and female behavior by carefully observing models of each sex (Leaper, 2000; Ruble & Martin, 1998). For example, children of employed mothers (who play the *masculine* instrumental role) or of fathers who routinely perform such *feminine* household tasks as cooking, cleaning, and child care are less aware of gender stereotypes than are children of more traditional parents (Serbin, Powlishta, & Gulko, 1993; Turner & Gervai, 1995). Similarly, boys with sisters and girls with brothers have fewer gender-typed activity preferences than children who have only same-sex siblings (Colley et al., 1996; Rust et al., 2000). What's more, John Masters and his associates (1979) found that preschool children are much more concerned about the sex-appropriateness of the *behavior* they are observing than the sex of the model who displays it. Four- to 5-year-old boys, for example, will play with objects labeled “boys’ toys” even after they have seen a girl playing with them. However, these youngsters are reluctant to play with “girls’ toys” that boy models have played with earlier, and they think that other boys would also shun objects labeled as girls’ toys (Martin, Eisenbud, & Rose, 1995). So children’s toy choices seem to be affected more by the labels attached to the toys than by the sex of the child who served as a model. But once they recognize that gender is an unchanging aspect of their personalities (at age 5 to 7), children do begin to attend more selectively to same-sex models and are now likely to avoid toys and activities that other-sex models seem to enjoy (Frey & Ruble, 1992; Ruble, Balaban, & Cooper, 1981).

Kohlberg’s Cognitive-Developmental Theory

Lawrence Kohlberg (1966) proposed a cognitive theory of gender typing that is quite different from the other theories we have considered, and it helps to explain why boys

and girls adopt traditional gender roles even when their parents may not want them to. Kohlberg's major themes are as follows:

- Gender-role development depends on cognitive development; children must acquire certain understandings about gender before they are influenced by their social experiences.
- Children *actively socialize themselves*; they are not merely passive pawns of social influence.

According to both psychoanalytic theory and social learning theory, children first learn to do "boy" or "girl" things because their parents encourage these activities. Next, they come to identify with or habitually imitate same-sex models, thereby acquiring a stable gender identity. Kohlberg proposes the opposite. He argues that children *first* establish a stable gender identity and then *actively* seek out same-sex models and other information to learn how to act like a boy or a girl. To Kohlberg, it's not "I'm treated like a boy; therefore, I must be one" (social learning view). It's more like "Hey, I'm a boy; therefore, I'd better do everything I can do to find out how to behave like one" (cognitive-developmental view).

Kohlberg believes that children pass through the following three stages as they acquire a mature understanding of what it means to be a male or a female:

Basic gender identity. By age 3, children label themselves as boys or girls.

Gender stability. Later, gender is perceived as *stable over time*. Boys invariably grow up to become men and girls grow up to be women.

Gender consistency. The gender concept is complete when the child realizes that one's sex is also *stable across situations*. Five- to 7-year-olds who have reached this stage are no longer fooled by appearances. They know, for example, that one's gender cannot be altered by cross-dressing or taking up cross-sex activities.

When do children become motivated to socialize themselves—that is, to seek out same-sex models and learn how to act like males and females? According to Kohlberg, self-socialization begins only after children attain *gender consistency*. So for Kohlberg, a mature understanding of gender instigates true gender typing.

Studies conducted in more than 20 different cultures reveal that preschool children proceed through Kohlberg's three stages of gender identity in the sequence he describes and that attainment of gender consistency (or conservation of gender) is clearly associated with other relevant aspects of cognitive development, such as the conservation of liquids and mass (Marcus & Overton, 1978; Munroe, Shimmin, & Munroe, 1984; Szkrzybalo & Ruble, 1999). Furthermore, boys who have achieved gender consistency display more gender-stereotypic play preferences (Warin, 2000), begin to pay more attention to male than to female characters on television (Luecke-Aleksa et al., 1995), and favor novel toys that male models prefer rather than the ones that female models like—even when the toys they are passing on are the *more attractive toys* (Frey & Ruble, 1992). So children with a mature gender identity (especially boys) often play it safe and select the toy or activity that other members of their gender view as more appropriate for them.

Criticisms of Kohlberg's Theory

You may have already noticed the major problem with Kohlberg's theory: gender typing is well under way before the child acquires a mature gender identity. Recall that 2-year-old boys already prefer masculine toys before they have achieved a basic gender identity, and that 3-year-olds of each sex have learned many gender-role stereotypes and clearly prefer same-sex activities and playmates long before they begin to attend more selectively to same-sex models. Furthermore, gender reassignment is exceedingly difficult after children reach age 3 (Kohlberg's basic identity stage) and have *initially* categorized themselves as boys or girls. What's more, the rigidity of children's thinking about gender and

basic gender identity

the stage of gender identity in which the child first labels the self as a boy or a girl.

gender stability

the stage of gender identity in which the child recognizes that gender is stable over time.

gender consistency

the stage of gender identity in which the child recognizes that a person's gender is invariant despite changes in the person's activities or appearance (also known as gender constancy).

gender-role stereotypes appears to be more closely related to their levels of gender stability (rather than gender consistency); and once they reach gender consistency, they actually become more *flexible* in their thinking about gender stereotypes (see Ruble, Martin, & Berenbaum, 2006; Ruble et al., 2007). So Kohlberg badly overstates the case in arguing that a mature understanding of gender is necessary for gender typing to begin. As we will see in the next section, only a rudimentary understanding of gender permits children to acquire gender stereotypes and develop strong gender-typed toy and activity preferences.

Gender Schema Theory

Carol Martin and Charles Halverson (1981, 1987) proposed a somewhat different cognitive theory of gender typing (actually, an information-processing theory) that appears quite promising. Like Kohlberg, Martin and Halverson believe that children are highly motivated to acquire interests, values, and behaviors that are consistent with their “boy” or “girl” self-images. But unlike Kohlberg, they argue that this “self-socialization” begins as soon as the child acquires a basic gender identity at age 2½ or 3 and is well under way by age 6 to 7 when the child achieves gender consistency.

According to Martin and Halverson’s gender schema theory, establishing a basic gender identity motivates a child to learn about the sexes and to incorporate this information into **gender schemas**—that is, organized sets of beliefs and expectations about males and females that influence the kinds of information attended to, elaborated, and remembered. First, children acquire a simple **“in-group/out-group” schema** that allows them to classify some objects, behaviors, and roles as “for boys” and others as “for girls” (for example, trucks are for boys, girls can cry but boys should not, etc.). This is the information that researchers normally tap when studying children’s knowledge of gender stereotypes. This initial categorization of objects and activities clearly affects children’s thinking. In one research program, 4- and 5-year-olds were shown unfamiliar gender-neutral toys (such as spinning bells, a magnet stand), were told that these objects were either “for boys” or “for girls,” and were asked whether they and other boys or girls would like them. Children clearly relied on the labels to guide their thinking. Boys, for example, liked “boy” objects better than girls did, and children assumed that other boys would also like these objects better than other girls would. Just the opposite pattern of reasoning was observed when these same objects were labeled as “for girls.” As Martin & Ruble (2004) put it, “children are gender detectives who search for cues about gender—who should or should not engage in a particular activity, who can play with whom, and why boys and girls are different” (p. 67). Even highly attractive toys soon lost their appeal if they were labeled as for the other gender (Martin, Eisenbud, & Rose, 1995).

According to this theory, children also construct an **own-sex schema**, which consists of detailed information they will need to perform various gender-consistent behaviors. So a girl who has a basic gender identity might first learn that sewing is “for girls” and building model airplanes is “for boys.” Then, because she is a girl and wants to act consistently with her own self-concept, she will gather a great deal of information about sewing to add to her own-sex schema, while largely ignoring information about building model airplanes.

Once formed, gender schemas serve as scripts for processing social information. Recall from Chapter 7 that preschool children often have a difficult time recalling information that deviates from their scripted knowledge of everyday events. The same applies to gender-related knowledge: children are likely to encode and remember information consistent with their gender schemas and to forget schema-inconsistent information or otherwise distort it so that it becomes more consistent with their stereotypes (Liben & Signorella, 1993; Martin & Halverson, 1983). This is especially true: they have reached age 6 to 7, when their own stereotyped knowledge and preferences have crystallized and are especially strong (Welch-Ross & Schmidt, 1996). Support for this idea was presented earlier in the Focus on Research box; recall that children who heard stories in which actors performed gender-atypical behaviors (for instance, a gi

gender schemas

organized sets of beliefs and expectations about males and females that guide information processing.

“in-group/out-group” schema

one’s general knowledge of the mannerisms, roles, activities, and behaviors that characterize males and females.

own-sex schema

detailed knowledge or plans of action that enable a person to perform gender-consistent activities and to enact his or her gender role.

chopping wood) tended to recall the action but to alter the scene to conform to their gender stereotypes (saying that a boy had been chopping). Surely these strong tendencies to forget or to distort counterstereotypic information help explain why unfounded beliefs about males and females are so slow to die.

In sum, Martin and Halverson's gender schema theory is an interesting perspective on the gender-typing process. Not only does this model describe how gender-role stereotypes might originate and persist over time, but it also indicates how these emerging gender schemas might contribute to the development of strong gender-role preferences and gender-typed behaviors long before a child may realize that gender is an unchanging attribute.

An Integrative Theory

Biological, social learning, cognitive-developmental, and gender schema perspectives have each contributed in important ways to our understanding of sex differences and gender-role development (Ruble, Martin, & Berenbaum, 2006; Serbin, Powlisha, & Gulko, 1993). In fact, the processes that different theories emphasize seem to be especially important at different periods. Biological theories account for the major biological developments that occur before birth that induce people to label the child as a boy or a girl and to treat him or her accordingly. The differential reinforcement process that social learning theorists emphasize seems to account rather well for early gender typing: young children display gender-consistent behaviors largely because other people encourage these activities and will often discourage behaviors considered more appropriate for members of the other sex. As a result of this early socialization and the growth of categorization skills, 2½- to 3-year-olds acquire a basic gender identity and begin to form gender schemas that tell them (1) what boys and girls are like and (2) how they, as boys and girls, are supposed to think and act. And when they finally understand, at age 6 or 7, that their gender will never change, children begin to focus less exclusively on gender schemas and to pay more and more attention to same-sex models to decide which attitudes, activities, interests, and mannerisms are most appropriate for members of their own sex (Kohlberg's viewpoint). Of course, summarizing developments in an integrative model such as this one (see Table 12.4 for an overview) does not mean that biological forces play no further role after the child is born or that differential reinforcement ceases to affect development once the child acquires a basic gender identity. But an integrative theorist would emphasize that, from age 3 on, children are active *self-socializers* who will try very hard to acquire the masculine or feminine attributes that they view as consistent with their male or female self-images. This is why parents who hope to discourage their children from adopting traditional gender roles are often amazed that their sons and daughters seem to become little "sexists" all on their own.

Here's another point to note: All theories of gender-role development would agree that what children actually learn about being a male or a female depends greatly on what their society offers them in the way of a "gender curriculum." In other words, we must view gender-role development through an *ecological* lens and appreciate that there is nothing inevitable about the patterns of male and female development that we see in our society today. (Indeed, recall the gender-role reversals that Margaret Mead observed among the Tchambuli of New Guinea.) In another era, in another culture, the gender-typing process can produce very different kinds of boys and girls.

Applications: On Changing Gender-Role Attitudes and Behavior

Today many people believe that the world would be a better place if sexism were eliminated and boys and girls were no longer steered toward adopting the confining "masculine" or "feminine" roles. In a nonsexist culture, women would no longer suffer from

TABLE 12.4 An Overview of the Gender-Typing Process from the Perspective of an Integrative Theorist

Developmental period	Events and outcomes	Pertinent theory/theories
Prenatal period	The fetus develops male or female genitalia, which others will react to once the child is born.	Biosocial/psychobiosocial
Birth to 3 years	Parents and other companions label the child as a boy or a girl, frequently remind the child of his or her gender, and begin to encourage gender-consistent behavior while discouraging cross-sex activities. As a result of these social experiences, the neural developments they foster, and the development of very basic classification skills, the young child acquires some gender-typed behavioral preferences and the knowledge that he or she is a boy or a girl (basic gender identity).	Social learning (differential reinforcement) Psychobiosocial
3 to 6 years	Once children acquire a basic gender identity, they begin to seek information about sex differences, form gender schemas, and become intrinsically motivated to perform those acts that are viewed as "appropriate" for their own sex. When acquiring gender schemas, children attend to <i>both</i> male and female models. Once their gender schemas are well established, these youngsters are likely to imitate behaviors considered appropriate for their sex, regardless of the gender of the model who displays them.	Gender schema
7 years to puberty	Children finally acquire a sense of gender consistency—a firm, future-oriented image of themselves as boys who must necessarily become men or girls who will obviously become women. At this point, they begin to rely less exclusively on gender schemas and to look to the behavior of same-sex models to acquire those mannerisms and attributes that are consistent with their firm categorization of self as a male or female.	Cognitive-developmental (Kohlberg)
Puberty and beyond	The biological upheavals of adolescence, in conjunction with new social expectations (gender intensification), cause teenagers to reexamine their self-concepts, forming an adult gender identity.	Biosocial/psychobiosocial Social learning Gender schema Cognitive-developmental

a lack of assertiveness and confidence in the world of work, and men would be freer to display their sensitive, nurturant sides that many now suppress in the interest of appearing "masculine." How might we reduce sexism and encourage children to be more flexible about the interests and attributes they might display?

Bem (1983, 1989) believes that parents must take an active role by (1) teaching their young children about genital anatomy as part of a larger lesson that one's biological sex is unimportant outside the domain of reproduction, and (2) delaying children's exposure to gender stereotypes by encouraging cross-sex as well as same-sex play and by dividing household chores more equitably (with fathers sometimes cooking and cleaning and mothers cutting grass or making repairs). If preschoolers come to think of sex as a purely biological attribute and often see themselves and their parents pursuing cross-sex interests and activities, they should be less inclined to construct the rigid gender stereotypes that might otherwise evolve in a highly sexist early environment. Research suggesting that androgynous parents tend to raise androgynous children is consistent with Bem's prescriptions for change (Orlofsky, 1979). So, too, are findings that children whose parents hold nontraditional attitudes toward gender roles or whose fathers routinely perform "feminine" household and child care tasks are less aware of gender stereotypes. These children are also less likely to display gender-typed interests and ability profiles, compared with youngsters whose parents are more traditional in their gender-role attitudes and behaviors (McHale, Crouter, & Tucker, 1999; Tennenbaum & Leaper, 2002; Turner & Gervai, 1995).

This study and others (see Katz & Walsh, 1991, for a review) suggest that efforts to change gender-role attitudes are more effective with younger children than with older ones and possibly with girls than with boys. It makes some sense that it is easier to alter children's thinking early on, before their stereotypes have become fully crystallized;

and many researchers now favor *cognitive interventions* that either attack the stereotypes directly or remove constraints on children's thinking that permit them to construct these rigid gender schemas. These cognitive interventions can be quite effective indeed.

Finally, some evidence indicates that programs designed to modify children's gender-stereotyped attitudes and behaviors may be more effective when the adult in charge is a man (Katz & Walsh, 1991). Why? Possibly because men normally make stronger distinctions between "gender-appropriate" and "gender-inappropriate" behaviors than women do; thus, men may be particularly noteworthy as *agents of change*. In other words, children may feel that cross-gender activities and aspirations are quite legitimate indeed if it is a man who encourages (or fails to discourage) these pursuits.

So new gender-role attitudes can be taught, although it remains to be seen whether such change persists and generalizes to new situations should these attitudes not be reinforced at home or in the culture at large. Sweden is one culture that has made a strong commitment to gender equality: men and women have the same opportunities to pursue traditionally masculine (or traditionally feminine) careers, and fathers and mothers are viewed as equally responsible for housework and child care. Swedish adolescents still value masculine attributes more highly than feminine characteristics. However, they are less adamant about it than American adolescents are and they are much more inclined to view gender roles as acquired domains of expertise rather than biologically programmed duties (Intons-Peterson, 1988).

CONCEPT CHECK 12.2

Understanding Theories of Gender-Role Development

Check your understanding of theories of gender-role development by answering the following questions. Answers to objective questions appear in the Appendix.

True or False: Identify whether the following statements are true or false.

1. (T)(F) Halpern's psychobiological model explains why unfounded beliefs about males and females are likely to persist.
2. (T)(F) Kohlberg's cognitive-developmental theory cannot easily explain why gender reassignment usually fails with 3- to 5-year-olds.

Multiple Choice: Select the one best answer for each question.

- _____ 3. The starting point for self-socialization, according to Kohlberg's cognitive-developmental theory of gender-role development, is
 - a. gender consistency.
 - b. basic gender identity.
 - c. gender stability.
 - d. gender-role achievement.
- _____ 4. The starting point for self-socialization, according to Martin and Halverson's gender schema theory, is
 - a. gender consistency.
 - b. basic gender identity.
 - c. gender stability.
 - d. gender-role achievement.

Fill in the Blank: Complete the following statements with the correct theoretical perspective.

5. You are a developmental psychologist who believes that there is a critical period for gender typing between 18 months and 3 years. You also believe that biological and social factors interact to direct gender-role development. Based on your beliefs, you would most closely associate yourself with the _____ perspective.
6. You are a developmental psychologist who believes that early gender typing largely reflects the gender curriculum that parents provide. You also believe that siblings and playmates help to establish children's gender roles. Based on your beliefs, others might label you a _____ psychologist.
7. You are a developmental psychologist who believes that children adopt gender roles by identifying with the same-sex parent. Based on your beliefs, others might label you a _____ psychologist.

Short Answer: Provide a brief answer to the following question.

8. List in order the phases through which children pass in their development of gender roles, according to Kohlberg's cognitive-developmental theory of gender-role development.

Essay: Provide a detailed answer to the following question.

9. Describe ways in which parents and peers influence gender-role development.

Applying Developmental Themes to Sex Differences and Gender-Role Development



The four developmental themes that we have been exploring in this book are the active child, nature and nurture interactions, qualitative and quantitative developmental changes, and the holistic nature of development. Once again we find that these themes have been highlighted in this chapter on sex differences and gender-role development.

The active child theme is perhaps best illustrated by the self-socialization processes that children go through as they develop their gender identities and gender roles. Children are not passive recipients of environmental influences or biological forces. Instead, they actively seek out information about appropriate behaviors and characteristics of their gender and work to incorporate these attributes into their own identities. This was reflected in Kohlberg's cognitive-developmental theory of gender-role development and in Martin and Halverson's gender schema theory. Even the more biological theories of gender-role development concur that children are active in their gender-role acquisition.

Concerning developing gender identities and gender roles, we've seen several theories propose qualitative stages of developmental change, with children behaving and thinking differently across these stages (the hallmark of qualitative developmental change). For example, in Kohlberg's cognitive-developmental theory children pass through three qualitatively distinct stages on their way to developing a mature gender identity. The biological (both genetic and hormonal) forces that help shape gender also follow qualitative developmental changes as different developmental events help shape the child's biological gender and the child's reactions to those biological changes.

Perhaps the best example from this chapter of the interaction of nature and nurture in development is the interactive model of gender-role development. In that model we saw biological forces interact with social and interpersonal influences to help guide children to the development of mature gender identities. We should not forget, however, that the other theoretical perspectives on gender-role development also made room for both nature and nurture in influencing gender development.

Our final theme—the holistic nature of child development—is well illustrated by the interplay between cognitive, social, and biological changes in children's development, all working together to help children achieve gender identity. Indeed, a mature gender identity would not be possible without the influences of the child's cognitive function, his or her interactions with other children and adults, and the biological changes that underlie many of the initial changes in gender.

SUMMARY

- Gender typing is the process by which children acquire a gender identity and the motives, values, and behaviors considered appropriate in their society for members of their biological sex.

Categorizing Males and Females: Gender-Role Standards

- A gender-role standard is a motive, value, or behavior considered more appropriate for members of one sex than the other.
- Many societies are characterized by a gender-based division of labor in which females adopt an **expressive role** and males an **instrumental role**.

Some Facts and Fictions about Sex Differences

- As a group, girls outperform boys in many assessments of verbal ability and are more emotionally expressive, compliant, and timid than boys are.
- As a group, boys are more active and more physically and verbally aggressive than girls and tend to outperform girls on tests of arithmetic reasoning and **visual spatial skills**.
- These sex differences are small, refer only to group norms, and overall, males and females are far more psychologically similar than they are different.
- Cultural myths of traditional gender-role stereotypes that are not true include ideas that females are more

sociable, suggestible, and illogical and less analytical and achievement oriented than males.

- The persistence of these “cultural myths” can create **self-fulfilling prophecies** that promote sex differences in cognitive performance and steer males and females along different career paths.

Developmental Trends in Gender Typing

- By age 2½ to 3, children label themselves as boys or girls, the first step in the development of **gender identity**.
- Between ages 5 and 7, they come to realize that gender is an unchanging aspect of self.
- Children begin to learn gender-role stereotypes at about the same age that they display a basic gender identity.
- By age 10 to 11, children’s stereotyping of male and female personality traits is strong and these preteens view stereotypes as obligatory prescriptions.
- Children become more flexible in their thinking about gender during middle childhood.
- Children become somewhat more rigid once again during the adolescent period of **gender intensification**.
- Many toddlers display gender-typed toy and activity preferences, even before reaching basic gender identity.
- By age 3, children show **gender segregation** by preferring to spend time with same-sex playmates and developing clear prejudices against members of the other sex.
- Boys face stronger gender-typing pressures than girls do and are quicker to develop gender-typed toy and activity preferences.

Theories of Gender Typing and Gender-Role Development

- According to **evolutionary theory**, males and females faced different evolutionary pressures over the course of human history and the natural selection process created fundamental differences between males and females.

- Money and Ehrhardt’s **biosocial theory** emphasizes biological developments that occur before birth and influence the way a child is socialized. Prenatal hormone differences may contribute to sex differences in play styles and aggression.
- Nevertheless, social labeling and gender-role socialization play a crucial role in determining one’s gender identity and role preferences.
- Freud’s theory that children become gender typed as they **identify** with the same-sex parent to resolve their **Oedipus** or **Electra complex** has not been supported by research.
- Consistent with social learning theory, children acquire gender-typed toy and activity preferences through **direct tuition**. **Observational learning** also contributes to gender typing as preschool children attend to models of *both sexes* and become increasingly aware of gender stereotypes.
- Kohlberg’s cognitive-developmental theory claims that children are self-socializers and must pass through **basic gender identity** and **gender stability** before reaching **gender consistency**, when they selectively attend to same-sex models and become gender typed. However, research suggests that gender typing begins much earlier than Kohlberg thought and measures of gender consistency do not predict the strength of gender typing.
- According to Martin and Halverson’s **gender schema theory**, children who have established a basic gender identity construct “**in-group/out-group**” and **own-sex gender schemas**. These schemas serve as scripts for processing gender-related information and developing gender roles. Schema-consistent information is gathered and retained, whereas schema-inconsistent information is ignored or distorted, thus perpetuating gender stereotypes that may have no basis in fact.
- The best account of gender typing is an eclectic, integrative theory that recognizes that processes emphasized in biosocial, social learning, cognitive-developmental, and gender schema theories all contribute to gender-role development.

CHAPTER 12 PRACTICE QUIZ

Multiple Choice: Check your understanding of sex differences and gender-role development by selecting the best choice for each question. Answers appear in the Appendix.

1. A person’s biological identity—their chromosomes, physical manifestations of their identity, and hormonal influences—refers to
 - a. androgyny.
 - b. gender.
 - c. masculinity or femininity.
 - d. sex.
2. The traditional social prescription in the United States directs males to adopt the _____ role and females to adopt the _____ role in their behavior and characteristics.
 - a. expressive; instrumental
 - b. dominant; competitive
 - c. instrumental; expressive
 - d. nurturant; cooperative
3. Andy is entering early adolescence. Although he used to be a big help to his mother by doing household

chores, he now refuses, saying that the chores are "women's jobs." He also has a new interest in competitive sports and is being assertive in his interactions with friends. Andy is most likely experiencing

- a. gender intensification.
 - b. gender segregation.
 - c. gender typing.
 - d. the timing of puberty effect
4. Freud proposed that children pass through the phallic stage, in which they gratify the sex instinct by fondling their genitals, at approximately
 - a. 0–3 years of age.
 - b. 3–6 years of age.
 - c. 6–12 years of age.
 - d. 12 years of age and beyond.
 5. The syndrome in which females develop male external genitalia because of exposure to male sex hormones during the prenatal period is called
 - a. androgenized female syndrome.
 - b. congenital adrenal hyperplasia.
 - c. testicular feminization syndrome.
 - d. the timing of puberty effect.
 6. A psychological difference between the sexes is in activity level. According to the research on this topic:
 - a. Girls have a higher activity level than boys do.
 - b. Boys have a higher activity level than girls do.
 - c. The sex difference in activity level first develops during the preschool period.
 - d. The sex difference in activity level first develops during adolescence.
 7. A psychological difference between the sexes is in developmental vulnerability, including disease and developmental problems. According to the research on this topic:
 - a. Girls have a higher level of developmental vulnerability than boys do.
 - b. Boys have a higher level of developmental vulnerability than girls do.
 - c. The sex difference in level of developmental vulnerability first develops during the preschool period.
 - d. The sex difference in level of developmental vulnerability first develops during adolescence.
 8. What should we conclude about psychological differences between the sexes?
 - a. Males and females are far more psychologically similar than they are different.
 - b. Psychological sex differences apply mainly to predicting an individual person's behavior rather than group differences.
 - c. Most psychologists agree about which sex differences are the most meaningful and reliable.
 - d. The psychological sex differences that do exist are due to biological differences and not influenced by culture or social factors.
 9. The theory of gender typing that comes closest to displaying an essentialist bias, or the view that a person's biological status will determine his or her behaviors and characteristics, is
 - a. Freud's psychoanalytic theory.
 - b. gender schema theory.
 - c. Kohlberg's cognitive-developmental theory.
 - d. evolutionary theory.

KEY TERMS

androgenized females 477
 basic gender identity 483
 castration anxiety 480
 congenital adrenal hyperplasia (CAH) 477
 direct tuition 481
 Electra complex 480
 expressive role 459
 gender-role standard 459

gender 458
 gender consistency 483
 gender identity 466
 gender intensification 469
 gender schemas 484
 gender segregation 470
 gender stability 483
 gender typing 459
 identification 480

"in-group/out-group" schema 484
 instrumental role 459
 observational learning 481
 Oedipus complex 480
 own-sex schema 484
 phallic stage 480
 psychobiosocial model 480
 self-fulfilling prophecy 464

sex 458
 social roles hypothesis 475
 testicular feminization syndrome (TFS) 475
 timing of puberty effect 476
 visual/spatial abilities 461

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