

Chapter 10

Sex and Gender

The word sex refers to a biological classification based on genetic composition, anatomy, and hormones. The term gender recognizes that culture influences the raw material of biological sex through beliefs and expectations about what it means to be “masculine” and “feminine” (Ashmore, 1990; Unger & Crawford, 1992). Thus the word sex refers to biological phenomena associated with being female or male. (Of course, the word sex also has a second meaning; we use it to refer to intimate acts that involve pleasure and express affection and love.)

Gender refers to the psychological and social phenomena associated with being feminine or masculine as these concepts are defined in a given culture.

Here is one way to illustrate this distinction: The primary sex characteristics—a vagina or a penis—represents sex; a baby’s pink or blue clothing or blankets represent gender. Why? The colors of the hats or blankets encourage us to treat an infant as a boy or a girl rather than as a “generic human” (Unger & Crawford, 1992).

The Biology of Sex

What determines biological sex? Although most people are unmistakably male or female, the human embryo has the potential to develop as either male or female. Thus there is a potential for errors in sexual development beginning at the embryonic stage, and people have been born exhibiting various mixtures of male and female biological characteristics that are called intersexes. For example, hermaphrodites have a combination of female and male internal and external genitalia, including one testis and one ovary. Pseudohermaphrodites possess two gonads (testes or ovaries) of the same kind along with the usual male or female chromosomal makeup, but their external genitalia and secondary sex characteristics do not match their chromosomal makeup (Fausto -Sterling, 1993).

The Genetics of Sex. As we saw in Chapter 9, the ovum and sperm each contribute 23 chromosomes to the zygote. One of the chromosomes is a sex chromosome. The ovum always contributes an X chromosome toward determining the child’s sex, but the sperm may contribute either an X or a Y chromosome.

If the father contributes an X chromosome to the embryo at conception, the baby will be a girl (XX). If the father contributes a Y chromosome, the baby will be a boy (XY). The composition of our chromosomes is called our genetic sex.

Early in development, human embryos have an undifferentiated, or all-purpose, gonad (sex gland) that can become either a testis or an ovary. Approximately 7 weeks after fertilization, genes located on a sex-determining region of the Y chromosome guide the development of the testes (Marx, 1995). When no Y chromosome is present, the gonad begins developing as an ovary during the thirteenth week after fertilization.

Genetic Abnormalities. If the father’s Y chromosome combines with an ovum carrying two X chromosomes, the result is an XXY chromosomal pattern known as Klinefelter’s syndrome. The key features of this syndrome are smaller-than-normal male genitals, enlarged breasts, poor muscular development, and possible mental retardation. In Turner syndrome, the child has one X chromosome instead of two (a pattern referred to as XO). These individuals are usually short and have a webbed neck; they do not undergo puberty or menstruate because their ovaries never function properly (Moore, 1989).

Sometimes a single X chromosome from the mother unites with two Y chromosomes from the father (XYY). The resulting individual is male, usually tall, and likely to have below-average intelligence. Past reports of an association between the XYY pattern and a tendency to commit violent crimes have not been supported by subsequent research (Witkin et al., 1976). Compared to other criminals, those with the XYY pattern may be more likely to be caught, perhaps owing to their below-average intelligence. Less

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than 1 percent of the general population has the XYY chromosomal pattern, but the percentage of XYY individuals in prison is higher. However, this chromosomal pattern is not related to a significant amount of crime.

Male Vulnerability. Part of this vulnerability is due to risks associated with smoking, alcohol consumption, and job-related hazards (Verbrugge, 1989) that can lead to deaths from accidents, homicides, suicide, and AIDS. However, males' heightened vulnerability begins early in life and may be partly genetically based.

Male vulnerability is also seen in problems related to pregnancy and birth. More boys than girls are conceived (approximately 125 boys for every 100 girls), but at birth the ratio narrows to 106 boys for every 100 girls because more male embryos are miscarried (Pritchard, MacDonald, & Gant, 1985; Strickland, 1988). Longer maternal labor for boys than for girls is associated with several problems such as mental retardation, which occurs at a higher rate among males than among females (Vandenberg, 1987). Moreover, the incidence of enuresis (bedwetting), stuttering, learning disabilities, and delayed speech development is higher in males than in females. Although the rate of death for infant boys is higher than the rate for infant girls, males constitute slightly more than 50 percent of the population prior to age 30. In fact, the death rate among males is higher than the rate among females throughout the life span. As a consequence, males constitute less than 50 percent of population beginning with the age interval 40 to 49. Females outnumber males by approximately 3 to 1 among individuals aged 90 to 99.

Psychologist Bonnie Strickland (1988) notes that in most industrialized countries, the rate of heart disease is lower for females than for males. However, it is important to note that the leading cause of death among both men and women is heart disease. Women tend to suffer heart disease deaths at a later age than men.

A common explanation for this finding is that women are protected by the hormone estrogen; the risk of heart disease increases in females as estrogen levels decrease (Rodin & Ickovics, 1990). However, data do not consistently support this simple explanation. For example, women who take oral contraceptives (which contain estrogen) are at higher risk for developing heart disease, especially if they smoke (Rodin & Ickovics, 1990).

Karen Matthews (1989) has proposed a model to explain the difference in heart disease rates that considers both hormonal and behavioral influences. Men are more likely to put themselves in situations in which the stress response is elicited. The difference in heart disease rates between men and women shows us that hormones combine with behavior to affect health. Hormones also play a significant role in sex differentiation and sexual arousal.

The Hormonal Basis of Sex

As noted earlier, sexual differentiation does not begin until about the seventh week of embryonic development, when internal reproductive organs (testes or ovaries) develop in response to either the presence or the absence of genes carried on the Y chromosome. The action of hormones during the embryonic and fetal stages as well as during adolescence gives rise to what is termed anatomical sex. In males, an increase in the level of testosterone at puberty is responsible for the development and growth of the penis and testes as well as the secondary sex characteristics. In females, an increase in estrogen levels at puberty is responsible for the growth of the uterus and the vagina and the development of the secondary sex characteristics.

The foregoing analysis of sex differentiation seems straightforward. However, as noted earlier, just as problems can occur in the chromosomes, others can occur during the embryonic stage, hormone-induced sex differentiation, or puberty. The hormone environment of the womb, not the chromosomes, directly determines the sex of the fetus (Pool, 1994). For example, the mother may have ingested a drug that

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changes her hormone levels at a sensitive time for sex differentiation. In the 1950s, some pregnant women were prescribed a synthetic steroid that exposed their female fetuses to androgens; these genetic females (XX) were born with genitals resembling those of males. This condition, adrenogenital syndrome, often requires surgical correction (Baxter, 1994). Individuals with this syndrome tend to exhibit more rough-and-tumble play, are more aggressive, and opt for more typically masculine toys than their unaffected sisters (Baxter, 1994).

A male embryo may fail to respond to male hormones, a condition called androgen insensitivity syndrome. The XY fetus will develop testes that produce testosterone; however, the rest of the body acts as if it were not there, and the genetically male (XY) fetus heads down a mostly female track of development. Genital tissue is shaped into a clitoris and labia, so the child looks like a girl at birth. The only sign of a difference is the presence of testes, which can be missed without a close physical examination (Pool, 1994).

One child in 14,000 has a genetic defect that causes large amounts of male hormones to accumulate in the fetus during development. This condition is called **congenital adrenal hyperplasia (CAH)**. In this case, the baby is a genetic male but has external genitals resembling those of females.

Sexual Behavior. Researchers frequently use animals as models for studying the behavior of human beings. Sexual behavior in animals is controlled by genetically programmed factors, especially the levels of hormones that circulate in the bloodstream. Therefore, female animals are receptive to sexual overtures only at certain biologically determined times, when they are said to be “in heat” or in estrus.

Human sexual behavior—in contrast to that of many other living organisms—is a function of the complex interplay of genetic, prenatal, and environmental factors; thus human beings are not slaves to their hormone levels. We can become sexually aroused by a range of stimuli, from smells to sights to fantasies. This observation accounts for some unusual sexual behaviors and arousal patterns that can be seen in humans but not in lower animals.

Many people believe that men and women have entirely different sex hormones. In fact, both men and women have measurable quantities of the hormones estrogen, progesterone, and testosterone. However, the amounts of these hormones differ in men and women.

An individual’s potential to respond sexually to persons of the same sex, the opposite sex, or both is called sexual orientation. The most common cultural norm is heterosexuality (from the Greek word hetero, meaning “the other of two”), which means that the individual is sexually attracted to someone of the opposite sex. Homosexuality (from the Greek word homo, for “the same”) means an individual is sexually attracted to someone of the same biological sex. Homosexuals have adopted the term gay to put their sexual orientation in a more positive light than other terms. In common usage, the term gay refers to males and sometimes to females; the term lesbian is reserved exclusively for women who are sexually attracted to other women (Friedman & Downey, 1994). The sexual orientation known as bisexuality refers to attraction to people of both sexes. Many surveys of sexual behaviors classify people with any same-sex behavior as homosexual. Thus these surveys overlook the category of bisexuality.

The term homophobia (from the Greek word phobia, meaning “fear”) was coined in 1967 to describe an irrational fear of homosexuality that is often manifested in prejudice and hate crimes against gay men and lesbians (Friedman & Downey, 1994; Strickland, 1995).

In some cases, individuals born with the genitals of one sex feel that they are of the other sex and are trapped in the wrong body; this condition is called transsexualism. Some of these individuals deliberately choose to change their sexual identity by having surgery.

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Note that transsexuals do not have mixed or ambiguous sexual characteristics; they are clearly of a certain sex, but their gender doesn't match their biological sex.

Growing evidence suggests that biological factors play an important role in the development of sexual orientation. Researchers have discovered that a tiny portion of the hypothalamus is twice as large in men as in women and two to three times larger in heterosexual than in homosexual men (Le Vay & Hamer, 1994). The growth of the neurons in this region may be related to levels of androgens such as testosterone: The higher the level of androgens, the greater the number of neurons that survive, and hence the larger the region. Thus androgen levels may be unusually low in the fetuses of males who become gay and unusually high in the fetuses of females who become lesbian.

Research with twins also suggests a strong biological component for homosexuality. Among males, researchers have found that when one identical twin is homosexual, the other twin is also homosexual in 57 percent of the cases. Among fraternal twins, the concordance rate was 24 percent. Among women, approximately 50 percent of identical twins, 16 percent of fraternal twins, and 13 percent of sisters of lesbians are also lesbian (Le Vay & Hamer, 1994).

The Development of Gender Roles

Most children between the ages of 2 and 3 can label themselves as boys or girls; they can also classify other people as members of the same or the other sex. By age 3, most American children know the traditional expectations for males and females. Over and over they have heard that “boys don't play with dolls,” “girls grow up to be nurses,” and “it's OK if a boy gets dirty, but a girl should be dainty.” They learn how these gender roles relate to clothing, games, tools, and toys (Biernat, 1991).

Psychodynamic Theory. According to Freud's psychodynamic theory, young boys develop a sexual attraction to their mother and young girls develop a similar attraction to their father. Freud's proposal follows from his view that even children are motivated by sexual instincts. However, children soon learn that they cannot prevail in any competition against the parent of the same sex. Thus the child settles for the attention that results from identifying with the parent of the same sex. If the child becomes like that parent, he or she will take on that parent's characteristics and acquire what society deems to be appropriate gender roles.

Social Learning Theory. When applied to gender roles, this theory proposes that children learn these roles from their parents (or other caregivers) via rewards and punishments (Mischel, 1966), along with imitation and role modeling (Bandura, 1969). Children learn to exhibit appropriate gender-related behaviors in the same way that they learn other behaviors. Mothers and fathers may encourage boys to be aggressive; they are not upset if their sons shout, fight, or get dirty because many parents believe that “boys will be boys.”

Cognitive Developmental Theory. Lawrence Kohlberg (1966) introduced the notion of gender identity as a critical component in his cognitive developmental theory. This approach adds to social learning theory by suggesting that in addition to the effects of role models and reinforcement, children might think, “If I'm a boy, I'd better figure out what kinds of things boys do” (Beal, 1994). Between the ages of 2 and 3, children acquire gender identity, which means that they develop a sense of themselves as male or female. Kohlberg places special emphasis on the notion of gender permanence between ages 5 and 7, which occurs when children realize that they are always going to be a male or a female. Understanding that gender is relatively unchanging motivates a child to learn how to be competent at his or her assigned gender (Wood, 1994). However, critics point out that a considerable amount of gender role learning occurs before gender permanence develops.

Gender-Schema Theory. A fourth approach to explaining the development of gender distinctions, gender-schema theory (Bem, 1981), is a combination of social learning theory and cognitive

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developmental theory. A schema is a learned expectation that guides perceptions, memory, and inferences. Consider the case of a biologist and her 2-year-old son, who happened to have long blond hair. They were in a restaurant where a server remarked, “Oh, she’s so cute. What a sweetie.” The child’s mother corrected the server, “Well, he’s actually a boy.” Without missing a beat, the server responded, “Tough little guy, huh!” (Baxter, 1994).

Gender-schema theory suggests that children form schemas of masculine and feminine attributes and activities on the basis of their accumulated experiences.

Gender Stereotyping

Many broad-based personality measures have contained a masculinity-femininity scale that was based on the assumption that there are basic psychological differences between males and females. This way of conceptualizing masculinity and femininity forms the basis for terms like other sex and opposite sex.

A stereotype is a set of socially shared beliefs that we hold about members of a particular group. Distinctions based on biological sex are similar to stereotypes based on age, height, race, religion, and social class. When we use stereotypes, our responses to people are based on a category that describes them rather than on qualities of the individuals themselves. Stereotypes are both descriptive and prescriptive because they lead to expectations about what is and is not appropriate—in this case, for males or females. As such, stereotypes can be limiting and can constitute a form of social control (Fiske, 1993). The use of stereotypes based on sex is reflected in behaviors ranging from the courses students select to the occupations people enter. A male, for example, is unlikely to enroll in a course in home economics, and few construction workers are female.

Components of Gender Stereotypes. As we pointed out earlier, an important implication of gender stereotyping is that movement away from what the stereotype prescribes is often viewed as movement toward the other sex. A woman who produces competent intellectual work at her job may be told that she “thinks like a man.” Men who are hesitant to enter dangerous situations are very likely to be mocked with statements like “you old woman.”

Mass Media and Gender Stereotypes.

The print media, from elementary school textbooks to newspapers to comic strips, present and strengthen messages about what is appropriate for women and men. For example, many preschool children learn from those media that “boys don’t play with dolls” and “mommies can’t be pilots,” although such stereotypes are changing. Gender stereotypes can limit the choices individuals believe are open to them when making decisions such as which occupations to consider. Consequently, the mass media have increased efforts to ensure that their programming does not reflect stereotyped beliefs.

Similarities and Differences between Males and Females

Remember that sex differences are statistical in nature and say nothing about a given individual. Many reported differences are so small they are not detected unless hundreds or thousands of people are tested.

Biological Differences between the Sexes

There are some obvious physical differences between males and females in anatomy, hormones, physical size, and musculature. To begin with, men are taller than women. In the United States, the average man in his twenties is about 5 feet 10 inches; the average woman is about 5 feet 4 inches. Beginning at puberty, men achieve greater muscle mass than women, due to the effects of testosterone. In women, estrogen prompts the development of breasts and widening of hips during puberty (Pool, 1994).

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Most physical differences have less impact today in industrialized and technologically advanced societies than was true in earlier eras.

Brain Differences. The existence of biological differences like the ones just mentioned led some researchers to look for others. For example, a century ago, scientists proposed that intelligence was a function of brain size. They reported that men had uniformly larger brains than women, which they claimed led to differences in intelligence and explained the greater accomplishments of men in fields such as politics and science (Ashmore, 1990).

Magnetic resonance tomography and PET scans suggest the existence of some slight structural differences in the brains of men and women. One reported difference involves the corpus callosum, the bundle of nerve cells through which the two hemispheres of the brain communicate. The corpus callosum seems to be larger in women than in men (Burke & Yeo, 1994;

Clarke & Zaidel, 1994). This difference may lead to differences in the communication between the hemispheres. One suggestion is that the left and right hemispheres of men do not communicate as much as they do in women. This proposal might explain why language abilities in women are more likely to survive a stroke in the left hemisphere. Women may tap the language capacity of the right hemisphere (Begley, 1995), although other explanations have also been offered (Kimura, 1992).

Doreen Kimura (1992) suggests that “the effects of sex hormones on brain organization occur so early in life that from the start the environment is acting on differently wired brains in girls and boys” (p. 119). Men and women perform differently on a variety of tasks as a result of these early differences.

Are there significant differences in the brains of males and females? Many contemporary researchers have concluded that the differences, if any, are small and unlikely to account for differences in everyday behaviors. Moreover, such differences are open to varying interpretations.

Early Analyses of Sex Differences

In 1974, Eleanor Maccoby and Carol Jacklin completed the first major research on male-female differences, which they published in a book titled *The Psychology of Sex Differences*. Their review of more than 1,000 studies led them to conclude that well-established differences exist between males and females in four areas: verbal ability, spatial ability, mathematical ability, and aggression.

How do researchers arrive at conclusions like these? In the past, they counted the number of studies in each area that yielded a difference between males and females and noted the direction of the reported difference. This vote-counting method provided a general conclusion based on the overall trend of the finding (Eagly, 1995). However, suppose that we found two studies comparing males' and females' preferences for romantic films. One study of 10 women and 10 men yielded no difference in preference for type of film. The other study involved 500 subjects, equally divided between men and women; this study found a difference. Using the box score or vote-counting method, these two studies cancel each other out, even though the size of the latter sample makes its findings far more compelling and more likely to be representative of the entire population than findings from a study of only 20 individuals.

A new and sophisticated statistical technique called meta-analysis has several advantages over older methods of analyzing research literature. Meta-analysis allows researchers to combine the results of a large number of studies on a single topic.

Meta-analyses have revealed a range of gender differences from small to large, depending on the particular behavior or characteristic examined (Hyde & Plant, 1995). For example, the frequent finding that women smile more than men do (Hall, 1984) has been confirmed by meta-analysis. Men perform better at mentally rotating objects and navigating through a route; they are more accurate in guiding or intercepting projectiles. Women are better at rapidly identifying matching items (a skill called perceptual

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speed), precision manual tasks such as placing pegs in designated holes on a board, and verbal or associational fluency (Halpern, 1992; Kimura, 1992; Linn & Peterson, 1985). However, most differences are close to zero or are classified as small; only 10 percent of them are considered large differences (Hyde & Plant, 1995).

Although meta-analysis can tell us whether a difference exists and its approximate size, it cannot tell us how the difference originated. In the following section we look at current research on differences between males and females.

The Cognitive Realm

People often wonder whether one sex is more intelligent than the other. However, the scores obtained by females and males on standard measures of intelligence do not differ. Why? When Alfred Binet was developing the first intelligence scale, he found that boys were more likely than girls to obtain low scores. For a number of items, the girls answered correctly at an earlier age than the boys; the opposite pattern (boys outperformed girls) was found for a few items, although there weren't enough of those items to balance the test. Binet balanced the two types of items so that males and females performed equally well; this tradition continued in most modern tests of intelligence. Thus neither males nor females have an advantage stemming from the selection of items on intelligence tests. If we look beyond overall intelligence scores and investigate specific abilities, some differences emerge.

Verbal Ability. The concept of verbal ability covers a number of different abilities, including vocabulary and verbal analogies. When the various components are analyzed separately, some differences have been found. For example, women outperformed men on abilities such as anagrams, and verbal or associational fluency favored females (Halpern, 1992; Kimura, 1992). A meta-analysis of 165 studies that involved tests given to 1.4 million people found that women scored higher than men; however, the difference is quite small (Hyde & Linn, 1988). Based on results such as these, psychologist Janet Hyde (1994) has argued "that there are no longer any gender differences in verbal ability" (p. 454). She further pointed out that the gender differences on the more recent studies are smaller than those on earlier studies. She concluded: "If this gender difference is biologically determined, it is difficult to see how it could get smaller over time!" (p. 455).

Mathematical and Visual-Spatial Abilities. In the early 1980s, two researchers, Camilla Benbow and Julian Stanley of Johns Hopkins University (1980, 1982), published several articles that created a stir in the popular press and in academic circles. For several years, Stanley had collected data on a group of very bright seventh- and eighth-grade students. Students who had scored in the top 2 to 5 percent of any standardized math test were invited to take the Scholastic Aptitude Test (SAT), a test widely used as one basis for college admission decisions (it is now known as the Scholastic Assessment Test). Benbow analyzed the results and found that the boys scored significantly higher than the girls on "mathematical reasoning ability." Most of this difference was evident by the seventh grade. However, the findings were exaggerated when they were reported in the press.

A meta-analysis of 254 samples sheds new light on the mathematical ability of boys and girls (Hyde, Fennema, & Lamon, 1990). The analysis involved the mathematics performance of more than 3 million individuals. Girls did better at computation (addition, subtraction, multiplication, division); however, the difference is small. There were no differences in the understanding of mathematical concepts at any age. A small to moderate difference in problem solving that favors boys emerges in high school, (Hyde, 1994). In general, the differences between males and females were small and favored females in samples drawn from the general population. In some samples, such as highly precocious individuals, the differences favored males; these differences emerged in high school and college.

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Spatial ability is really a collection of related abilities. How do these abilities manifest themselves? We use visual-spatial abilities when we imagine how irregularly shaped objects would look if they were rotated in space or when we try to perceive the relationship among shapes and objects. Skills such as these are helpful in certain types of mathematics and in engineering or architecture; they are also evident when we solve jigsaw puzzles or envision how furniture fits into a room before moving it in.

The most consistent finding concerning spatial ability is that males outperform females on mental rotation tasks. Some researchers suggest that such differences have a biological basis. They point to evidence from girls with CAH, who were exposed to excess androgens in the prenatal or postnatal period. These girls score better than the average female on tests of spatial ability.

A number of factors could be responsible for male-female differences in mathematical and visual-spatial abilities. Among those factors is math anxiety. Individuals with math anxiety often believe that they lack the ability to solve math problems and are therefore doomed to fail. Other factors that may account for male-female differences in mathematical ability are parents' gender-stereotyped beliefs and students' perceptions of the value of mathematical and visual-spatial abilities for future studies. For example, after reading that girls don't perform well in math, many mothers subsequently lowered their expectations of their daughters' math competence (Eccles & Jacobs, 1986).

There is a relationship between opportunities for spatial learning experiences and performance on tests of spatial ability. Spatial training appears to improve scores on such tests for both males and females; the training does not differentially improve the scores of males compared to those of females (Baenninger & Newcombe, 1989). Moreover, most American parents believe that their sons are more talented than their daughters in mechanics and mathematics (Vetter, 1992).

The Social Realm

In addition to studying cognitive abilities, researchers have studied male-female differences in social behaviors such as communication, helping, and aggression. Here we examine some key findings of those studies.

Communication. A number of researchers have noted that men and women look at communication differently. For most women, communication is a primary way to establish and maintain relationships. Men tend to view communication as a way of exerting control, preserving independence, and enhancing status (Wood, 1994). Consequently, men are more likely to use speech to exhibit their knowledge, skill, or ability.

In a book titled *You Just Don't Understand: Women and Men in Conversation*, Deborah Tannen (1990) describes a difference between the conversations of men and women. According to Tannen, men often talk more easily in front of a group than with a spouse or a girlfriend. For women, dinner conversations may form a crucial bond of intimacy that can make or break a relationship.

Tannen's research suggests that there is one major difference between men and women in a social setting. She has found that men are less likely than women to ask questions. Women are more likely to add a question to the end of their statements (such as "I think Ted's teacher is giving the class too much work, don't you?"). Researchers have offered two explanations for this linguistic structure, known as a tag question. Tag questions may reveal tentativeness on the part of the speaker. They can also be viewed as a means of encouraging further conversation and inviting the participation of others.

Helping Behavior. Women are generally regarded as the caretakers of others and are thus expected to provide most of the care for infants, elderly relatives, and the sick or disabled. For example, if a school-age child is ill and needs to stay at home, it is generally the mother who takes time off from work (Wood, 1994).

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Alice Eagly (Eagly & Crowley, 1986) conducted a meta-analysis of research on helping behavior. She found that most of the data had been collected in situations in which an individual was called to give or not give aid to a stranger on a short-term basis. This kind of **“heroic helping”** is more consistent with the traditional masculine role than with the traditional feminine role that emphasizes helping within established relationships. In contrast, women were more likely to help when there were no observers and when a **nurturing type** of help was needed.

Aggression. When Maccoby and Jacklin (1974) completed their review of sex differences in cognitive abilities, they noted that males exhibited higher levels of aggression than women. There is no doubt that the vast majority of crime committed in the United States is committed by men, who are also responsible for more violent crimes than women.

Such a difference in violence and aggression may be due to biological factors. However, current research is challenging this conclusion. Anne Fausto-Sterling (1992) found that Maccoby and Jacklin’s arguments are weaker than originally supposed. The first area in which male-female differences in aggression appears --physical aggression and rough-and-tumble play—could just as easily be caused by differential treatment of boys and girls as by biological factors. In fact, Maccoby and Jacklin’s literature review revealed that parents were handling their sons more roughly than their daughters before the infants were 3 weeks old. Moreover, data from studies of nonhuman primates show that male-female differences in physical aggression occur only in some primate species, not in all of them. Even in species for which there is evidence of a sex difference, the difference is present only in some environments. Nevertheless, gonadal hormones do appear to influence the development of some human behaviors such as aggression in which sex differences can be seen (Collaer & Hines, 1995).

Janet Hyde (1984b) reported a meta-analysis of studies of aggression in laboratory studies and found that a person’s sex accounted for a small proportion of aggression in those studies. Alice Eagly and Valerie Steffen (1986) found that human males are more aggressive than human females, but the difference was noted mostly in aggression that produces physical harm rather than psychological or social harm.

Social Issues

One day Elizabeth Hasanovitch’s boss tried to rape her. She fled and did not return for her paycheck, even though she was left destitute. Later she wrote, “I felt what that glance in his eyes meant. It was quiet in the shop. Everybody had left, even the foreman. There in the office I sat on a chair. The boss stood near me with my pay in his hand, speaking to me in a velvety soft voice. Alas! Nobody around. I sat trembling with fear.” (Fitzgerald, 1993b, p. 1)

Is the situation just described a common one?

The perpetuation of gender stereotypes can produce what has been termed sexism--differential treatment of an individual on the basis of his or her sex. This term is often used to describe discrimination against women, such as differential treatment in educational settings and limited access to job opportunities, but it can also be applied to discrimination against men.

Although women constitute more than half of the population, only 3 percent of the chief executives of major U.S. corporations are women (Saltzman, 1991). Despite changes in the norms and values of U.S. society, bias and discrimination based on sex still exist (Glick, Zion, & Nelson, 1988).

Education

In the late 1800s, scientists argued that the energy required for menstruation and childbearing made women unable to handle the rigors of an educational program; therefore, educating women would be dangerous and damaging. Moreover, they argued that women were less intelligent than men; as proof they

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pointed to differences in the size of the brain in men and women (Fausto-Sterling, 1992). Today such beliefs are considered absurd, and women are earning college and university degrees in increasing numbers. In fact, since 1985, more women than men have earned degrees from colleges and universities.

Elementary School. Other differences between the educational experiences of girls and boys emerge later. For example, teachers asked to nominate their best students are more likely to nominate boys than girls. They are especially likely to name boys as most skilled in mathematics, even though, as mentioned earlier, girls generally obtain higher grades than boys (Kimball, 1989). When asked to think of students who excel in language or social skills, teachers are more likely to name girls (Ben Tsvi-Mayer, Hertz-Lazarowitz, & Safir, 1989).

The materials used in teaching classes also reflect a gender bias. For example, a content analysis of children's readers in use in 1989 revealed that girls appeared as often as boys and that women appeared more often than they did in the 1970s. However, women still did not appear as often as men or in as wide a range of occupations (Purcell & Stewart, 1990).

Two professors of education, Myra and David Sadker (1985, 1993), have studied gender bias in classrooms. They observed 100 fourth-, fifth-, and eighth-grade classes in urban and rural school systems and found that even teachers "who care deeply about gender equity tend to interact differently with the boys and girls in their classrooms" (Sadker, Sadker, & Stulberg, 1993, p. 45). The teachers themselves were surprised by the findings.

What happens in these classrooms? Generally, boys who call out in class are likely to get the teacher's attention. Girls who call out in class are more likely to be told to "remember the rule" to raise their hand before speaking. Although the teachers believed that the girls talked more and participated more than the boys did, the observations showed that boys outtalked girls by a ratio of 3 to 1. Moreover, boys are eight times more likely than girls to call out answers in class. However, the stereotype of talkative females is so powerful that the teachers failed to see this gender gap in communication in their classrooms.

High School and Higher Education. The patterns of sexism established in elementary school classrooms can continue into high school and higher education (American Association of University Women, 1992; Crawford & MacLeod, 1990). For example, girls and boys tend to take different courses in high school. Classes in home economics, health, and office occupations are filled with girls; courses in technical, trade, and industrial programs are filled with boys. The consequence of these differences is that girls are being prepared for only a few jobs, especially those that are lower in status and salary (Basow, 1992).

Between 1960 and the 1980s, the number of American women who earned science and engineering degrees increased; it then reached a plateau, and today it is still lower than the number of men earning degrees in these fields (Brush, 1991). Why? There is no simple answer. Discrimination against women in education has become more covert, but other factors may be at work as well.

Science textbooks tend to perpetuate gender stereotypes: They include numerous pictures of male scientists but very few of female scientists. Moreover, when the latter are described, the portrayals are often inaccurate. "At the high school level, Marie Curie may be the only woman mentioned, perpetuating the belief that science has been created almost entirely by men" (Brush, 1991). A deep-seated cultural bias against science as an activity appropriate for women (La Follette, 1988) directs most girls away from science even before they begin their formal education. Those who desire to pursue a scientific career will find few role models in colleges and universities (Sonnert & Holton, 1996).

Another possible cause of sex differences in higher education is the use of test scores as selection criteria. Colleges and universities use the SAT in selecting students for admission and for scholarship and financial aid awards. However, the SAT has been shown to underpredict women's grades compared to those of men. If a man and a woman have the same SAT scores, the woman will tend to earn higher

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grades in college. Giving significant weight to SAT scores in the admissions process or in awarding scholarships can lead to the rejection of women who would have done better in college courses than the men who were accepted.

Work and Careers

When students are ready to enter the job market, they continue to face the influence of gender stereotypes. In 1988, researchers asked undergraduate students to rate several occupations as either masculine or feminine. Compared to ratings from 1975, there was a decline in the degree to which students stereotyped occupations according to gender. However, traditionally masculine occupations, such as engineer, are still viewed as masculine, although the extent of such stereotyping has changed (White et al., 1989). It is perhaps ironic that during (After World War II, women were expected to return to their domestic roles of raising a family and taking care of the home (Adler, 1994).

In recent decades, large numbers of women have entered the workforce, for both personal and financial reasons. They have found that they earn less than their male counterparts for similar work and have limited access to certain positions.

Political Office. Sexism is evident in the political arena also. For example, the number of women who hold political positions is well below the number of men in such positions, even though 1992 was touted as the “year of the woman” in politics (Boles, 1993).

Shirley Rosenwasser and Norma Dean (1989) conducted a study to identify some of the factors that may account for the underrepresentation of women in political office. They found that at every level of government (local, state, and national), stereotypically masculine characteristics were judged to be more important than feminine characteristics. To see how these stereotypes operate, imagine how you might react to the following descriptions of political candidates:

On a personal level, the senator has a reputation for being assertive and forceful. She has been self-sufficient most of her life. As a public servant, she does not hesitate to defend her own beliefs. With her strong personality, she is a good candidate for the presidency.

On a personal level, the senator has a reputation for being warm and compassionate. As a public servant, he is a good listener and is sensitive to the needs of others. His cheerful outlook on life and his affectionate regard for others make him a good candidate for the presidency.

After reading descriptions like these, participants were asked for their evaluations of the candidates' abilities to perform several tasks. Some of the tasks were stereotypically masculine. The participants gave the highest evaluations on “masculine” tasks to male candidates who were presented as having “masculine” characteristics. Female candidates received the highest ratings on “feminine” tasks. Male candidates were also found to have a significantly higher chance of winning an election. Why? One explanation is that the “feminine” tasks were seen as less important than the “masculine” tasks.

Sexual Harassment. In 1980, the Equal Employment Opportunity Commission (EEOC), an agency of the U.S. government, issued guidelines on sex discrimination that provided the first legal definition of sexual harassment. The EEOC defined sexual harassment as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature ... when

- (1) submission to the conduct becomes a condition of a person's employment;
- (2) employment decisions are based on the employee's submission to or rejection of such conduct;
- (3) the conduct substantially interferes with a person's work performance or creates an environment that is intimidating, hostile or offensive.

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According to this definition, incidents of sexual harassment can take two forms: (1) *quid pro quo*, in which a sexual proposition is tied to either a direct threat such as loss of a job or a direct offer such as a promotion, and (2) a hostile work (or educational) environment. A hostile environment is one that is pervaded by degrading, intimidating, or offensive behavior; however, explicit benefits are not directly linked to sexual cooperation. Thus sexual harassment involves a range of behaviors: verbal comments about a person's anatomy; the posting of sexually oriented cartoons, pictures, or posters in the workplace; touching someone in a sexually suggestive way; and rape, whether attempted or actually carried out.

Until recently, the widespread problem of sexual harassment received little public recognition. As one expert has written, "In a society where the sexual victimization of women has been so widespread as to be effectively invisible, sexual harassment remains the last great open secret" (Fitzgerald, 1993a, p. 1). This "open secret" has a long history; the incident described in the vignette at the beginning of this section took place in 1908.

In October 1991, Anita Hill, an attorney and professor of law, accused Clarence Thomas, who had been nominated to the U.S. Supreme Court, of having subjected her to sexual harassment on several occasions while she was in his employ. Shortly after the hearings, there were reports of sexual harassment at the September 1991 convention of the U.S. Navy's Tailhook Association, an organization of aircraft carrier pilots.

In 1990, the EEOC declared that an individual who claims to be the victim of a hostile environment must show that there was a pattern of offensive behavior. The agency advocates using the "reasonable person" standard to determine whether a work environment is hostile. However, the U.S. Court of Appeals in San Francisco ruled that this sex-blind "reasonable person" approach would be biased because it ignored women's perspectives. The court suggested a "reasonable woman" standard: If a reasonable woman would have felt harassed, the environment was hostile. In 1993, the Supreme Court ruled (in *Harris v. Forklift Systems*) that a person alleging sexual harassment does not have to prove that the conduct affected his or her psychological well-being.

Frequency of Sexual Harassment. To determine the frequency of sexual harassment among federal government employees, the Merit Systems Protection Board (MSPB) in 1981 surveyed more than 20,000 employees. Among its findings were the following:

1. Fully 42 percent of the federal government's female employees reported experiencing some form of sexual harassment during the 2 years preceding the survey.
2. Thirty-three percent of the women had experienced unwanted sexual remarks; 28 percent reported suggestive looks; and 26 percent reported being deliberately touched in a sexual manner. These incidents of sexual harassment were usually repeated over extended periods.

Several years later, another survey was conducted, with virtually the same results (Merit Systems Protection Board, 1987).

After reviewing several reports of the frequency of sexual harassment, psychologist Barbara Gutek (1985) concluded that more than half (50%) of U.S. women have been harassed during their working lives. Sexual harassment of men is rare; however, reports of harassment of men tend to receive significant media attention when they result in legal proceedings.

Women of all ages, races, and marital statuses have been harassed in educational settings and different work environments. Sexual harassment of university students has included grabbing a student's breast, kissing and hugging, or whispering sexual comments (McKinney, 1994; Wilson, 1995). Three quarters of female medical residents and 82 percent of nurses report having been sexually harassed (Charney & Russell, 1994; Grieco, 1987; Komaromy et al., 1993). The incidence of sexual harassment may be higher

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in workplaces where women have traditionally been underrepresented (Fitzgerald, 1993b), such as trades and transit operators (Mansfield et al., 1991).

Most victims of sexual harassment do not file a formal complaint because they fear retaliation or they believe the organization will not respond to their complaint.

Perceiving Harassment. In a number of workplace and school surveys, significant numbers of women have described incidents that would qualify as instances of sexual harassment, yet only about 5 percent of them have reported these incidents to someone in authority, such as a work supervisor (Fitzgerald, Shullman, et al., 1988; Fitzgerald, Weitzman, et al., 1988). Among the reasons for the low rate of complaints is that many women who tell researchers about such incidents do not perceive the incidents as sexual harassment (Fitzgerald, Shullman, et al., 1988).

Men and women do not differ in their perceptions of sexual harassment in explicitly coercive situations (e.g., stroking a woman's leg, fondling a student) (Baker, Terpstra, & Larntz, 1990; Fitzgerald & Ormerod, 1991). However, men tend to view less explicit instances (such as suggestive jokes or comments about a woman's body) as trivial or innocuous (Fitzgerald & Ormerod, 1991). Many men view this kind of "so-called" harassment as part of the normal interaction between men and women (Reilly et al., 1992).

The way men and women perceive interpersonal behaviors, especially women's friendliness, may hold a key to understanding some incidents of sexual harassment (Stockdale, 1993). For example, college students were asked to observe a discussion group and then evaluate the discussants. Compared to females' perception of males, males perceived more sexuality in the behavior of the female discussants (Saal, Johnson, & Weber, 1989).

The circumstances surrounding an event are also important in determining whether an incident constitutes sexual harassment. A key factor is abuse of power. For example, a student who repeatedly asks another student for a date may be annoying. By contrast, a professor who pressures a student for a date is likely to be viewed as a threat, and the professor's persistence is therefore perceived as harassment. Surgeon Frances Conley (1993) resigned from a position at the Stanford University School of Medicine because of sexual harassment; she notes that "the unequal distribution of power on the basis of sex creates a climate for men who would use their position to exploit women" (p. 351).

Women as Leaders. Alice Eagly and her colleagues (Eagly, Makhijani, & Klonsky, 1992) conducted a meta-analysis of 147 studies that evaluated men and women in leadership roles. Those studies revealed a slight tendency for women leaders to be evaluated less highly than men in the same positions; however, women did not receive lower evaluations in all situations. Instead, the devaluation of women leaders was selective; it occurred when they occupied previously male-dominated roles and when the evaluators were men. Moreover, women were evaluated less highly when they adopted more masculine styles of leadership, such as autocratic and nonparticipative management styles. A recent review of the effectiveness of men and women in the role of leaders or managers found that men and women were equally effective (Eagly, Karau, & Makhijani, 1995).

Why is it so hard to overcome gender stereotypes in the workplace and elsewhere? One reason is that people often "fence off" individuals who do not fit their stereotypes. An individual who disconfirms a stereotype is placed in a subtype, which serves to perpetuate the original stereotype. Women are not seen simply as doctors or professors but as female professors or lady doctors who are exceptions to the rule, thereby reinforcing gender stereotypes (Basow, 1992; Fiske & Stevens, 1993).

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Family Responsibilities

“What do you do?” You have probably been asked this question many times, and your answer most likely involved a statement about your occupation. Many women are asked questions like “Do you work?” or “What does your husband do?” Such questions ignore the fact that more than half of all women in the United States work outside the home. However, many women seem to have two jobs, one outside the home and one at home, where they are usually responsible for cooking, cleaning, and caring for children. Even in dual-career families, mothers continue to have the primary responsibility for child care. The tasks that men engage in at home tend to be sporadic, variable, and adjustable in terms of timing, such as repairing appliances and mowing the lawn. Women tend to engage in tasks that are repetitive, routine, and constrained by deadlines.

Monica Biernat and Camille Wortman (1991) conducted a longitudinal study of 139 married women professionals who had preschool children between the ages of 1 and 5. Most of the women and their husbands were in their thirties. All of these women worked at least 30 hours a week in high-status occupations (accounting, banking, higher education, law) that were equal in status to the husbands' occupations.

The wives and their husbands evaluated their participation in 8 different child-care tasks (e.g., caring for children's physical needs, getting up during the night) and 12 household activities (e.g., cooking, making repairs). They also rated their satisfaction with their role and their spouse's role in home labor.

The results indicated that the wives were more active than their husbands on every one of the child-care tasks. However, on the more enjoyable tasks (such as playing with children), there was greater equality. Unpleasant tasks, such as getting up in the middle of the night to care for a child, remained primarily the mother's responsibility.

These data revealed that couples were more likely to share household chores than child care. Wives were more likely to be responsible for finances, cleaning, and cooking; husbands handled some household chores related to laundry and repairs.

Juggling. Many psychologists who have studied stress have focused on stressors affecting men, particularly stressors in the workplace. They have tended to view the home as a benign environment where one recuperates from the rigors of working—a picture drawn from a traditional male perspective (Hare-Mustin & Marecek, 1990). This type of research does not recognize that women are concentrated in lower-paying jobs than men, have less upward mobility, have less control over their more tedious jobs, and also experience sexual discrimination. For them, the home is a further source of stress as they struggle to perform household tasks after a difficult day at work.

Many married women may have hoped that when they entered the workplace, their husbands would take on more of the responsibility for caring for the children and the home. However, this hope has not been realized. Instead of the envisioned role redefinition for men and women, the resulting situation has created a role expansion for women (Crosby & Jaskar, 1993). Faye Crosby (1991) uses the term jugglers to describe women who perform both job and family roles.