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## Is Biology Destiny?

### UNDERSTANDING SEX AND GENDER

Is she or isn't she? The debate has been going on for more than 10 years and has not yet produced a definitive answer. The "she" in question is world-class track and field athlete Caster Semenya. The question at hand is whether she should be allowed to compete as a female in international competitions. And despite all the advancements of modern science—with its ability to measure hormones, chromosomes, and more—the jury is still out on whether she can be categorized as female.

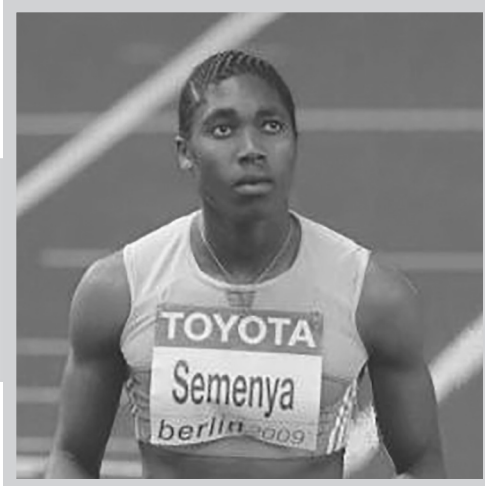
Representing South Africa, Caster Semenya came to the attention of world track and field authorities in the summer of 2009, when she won the 800-meter race at the World Championships. What should have been a joyous celebration quickly turned sour, as the International Association of Athletics Federations (IAAF) asked Semenya to submit to a "sex verification test." Her rapid improvement in time, wide margin of victory, and masculine appearance raised doubts about whether she was, in fact, female. The IAAF convened a panel of experts made up of an endocrinologist, gynecologist, internal medicine specialist, and psychologist to verify her gender. Semenya was barred from competition until her sex could be confirmed.

During the spring of 2010, Semenya returned to international competition, where once again she began posting dominant results. A cloud, however, hung over her. According to its official statement, "The IAAF accepts the conclusion of a panel of medical experts that she can compete with immediate effect." It added that "the medical details of the case remain confidential and the IAAF will make no further comment on the matter" ("Athlete Semenya" 2010). While the panel did not release its results, it presumably determined that Semenya had XY chromosomes and other female biological markers. In the following years, Semenya continued competing and won gold medals in the 800-meter race at the 2012 and 2016 Olympic Games.

In 2018, however, the vagaries of sex determination once again turned against Semenya. That spring, the IAAF announced the new rule it would use to separate women from nonwomen: Anyone whose testosterone levels measured 5 nmol/L (nanomoles per liter) or above would be banned from competing as a woman (within middle-distance races). It defined testosterone levels above that line as a "disorder of sex development" known as *hyperandrogenism*; should Caster Semenya wish to compete, she would have

**PHOTO 2.1**

The case of South African runner Caster Semenya has raised questions about what it means to be female



Erik van Leeuwen, GFDL <<http://www.gnu.org/copyleft/fdl.html>>, via Wikimedia Commons

to take hormone blockers that would reduce her testosterone levels to the “normal” female range. Imagine LeBron James being barred from the NBA just because his height fell well outside the measurements of “normal men.” Semenya quickly challenged this ruling, leading the Swiss Federal Supreme Court—the governing body that oversees the IAAF—to suspend its ruling and investigate further.

Why would it take global authorities more than 10 years to decide whether an athlete is or is not female? What, precisely, have these experts been looking for, and why is it so

difficult to develop a definitive “sex verification test”? All of this begs the question: How do we “really” know if someone is male or female? Perhaps there is no clear line separating male and female.

Caster Semenya’s case speaks directly to the sociological perspective. Our exploration begins with the notion that even seemingly simple terms such as *sex* and *gender* are socially constructed—that is, defined and shaped by humans. This chapter defines the differences between *sex* and *gender* and shows the clever and contradictory meanings that humans give to our most basic identities—and the social forces that play a part in this process.

## DEFINING SEX AND GENDER: WHAT IS IT AND HOW MANY ARE THERE?

When it comes to *sex*, how many are there? Generally speaking, our society treats sex as a **binary**—something that can be divided into two categories. Indeed, in legal documents, such as birth certificates, the identification of one’s sex is required, and typically only two options exist. But is it possible that there are more than two sexes?

To figure out how many sexes there are, we first need to know what *determines* a person’s sex. Whether there are two or five or some other number of sexes, we need to know what criteria to use to put people into their respective category.

**Sex** is defined as the *set* of biological distinctions that differentiate males and females. This definition has three key points. First, when it comes to sex, the appropriate terminology is *male* and *female*. The terms *men* and *women*, by contrast, apply to the concept of gender. Second, sex is a trait that humans are born with. This point will gain greater clarity when comparing it to gender. Third and finally, defining sex as a *set* of characteristics that differentiate females and males meaning there is no single trait that determines a person’s sex. Rather, a person’s sex reflects a constellation of traits—namely chromosomes,

gonads, hormones, and genitalia. It is this “constellation” that gave the IAAF so much trouble in the case of Caster Semenya: While she may have had some markers associated with females, she didn’t have all of them.

Although sex determination begins with chromosomes, it does not end there. If it were that easy, the IAAF could simply examine the 23rd chromosomal pair and look for the typical pattern of XX for female and XY for male. During fertilization, the egg typically contributes an X chromosome and the sperm typically contributes either an X or a Y to the developing zygote; 7 weeks later, the plot thickens. According to current understandings of sex differentiation, sex chromosomes soon lead to the development of gonads: testes or ovaries. Over the next 5 weeks or so, as gonads mature, the fetus begins to produce sex hormones. Male fetuses produce higher levels of androgens, the most familiar being testosterone. In females, the absence of androgens causes the Müllerian ducts to kick into gear, eventually producing a uterus and ovaries. Around the 12-week mark, humans develop the signature trait of males and females: the penis and vagina (genitalia). It is this typical story of fetal development, where chromosomes produce the gonads, hormones, and eventually genitalia, that allows doctors to declare, “You have a beautiful baby boy (or girl).” In most births the criteria used to label a newborn’s sex are fairly straightforward.

The case of intersexuality makes the question of how many sexes there are and what determines a person’s sex more biologically *and* sociologically interesting. **Intersexuality** refers to a congenital anomaly of the sexual or reproductive system. Previously called hermaphroditism, the term *intersex* describes individuals whose sex is ambiguous or who have statistically atypical combinations of male and female sex characteristics. Some prefer the term **differences of sex development**, or DSD, which better captures the idea that intersex conditions constitute a biological difference, not a deficiency or disorder (Davis 2015; Reis 2007).

The term *hermaphrodite* dates back to the mythological story of a creature that possessed the physical traits of both father (Hermes) and mother (Aphrodite). Anne Fausto-Sterling, professor of biology and women’s studies, brought renewed interest in the topic with her book *Sexing the Body: Gender Policies and the Construction of Sexuality*. She argued that there were at least five sexes. In addition to male and female, Fausto-Sterling identified a group called *herms*, who possess both an ovary and a testes; a group she called *merms*, who have testes and some female genitalia but no ovaries; and finally, a group she called *ferms*, who have ovaries and some male genitalia but no testes. While identifying these five categories, Fausto-Sterling (1993) speculated that “sex is a vast, infinitely malleable continuum that defies the constraints of even five categories” (p. 21). Describing sex as a **continuum** means that it is a spectrum, or a line, with continuous variations along the line, rather than distinct categories.

Indeed, the range of conditions falling under the intersex umbrella is diverse and includes chromosomal, hormonal, and morphological (in terms of physical structures) variations. While the “typical” chromosomal structure of males and females are XY and XX, respectively, some infants are born with atypical chromosomal structures, including XXY (Klinefelter’s syndrome), XYY (sometimes called “Superman syndrome”), and XO

(Turner's syndrome). Hormonal anomalies include congenital adrenal hyperplasia (CAH), androgen insensitivity syndrome (AIS), and 5-alpha reductase deficiency. Finally, differences of sex development include some *morphological* conditions, where the physical development of gonads or genitalia is atypical or incomplete.

So how does this happen? Chromosomal variations occur when cell meiosis (division) fails or is incomplete. In Klinefelter's syndrome, the X and Y sex chromosomes of the sperm fail to separate as they fertilize an (X) egg, thereby producing an XXY zygote. The effects of this condition vary from person to person. One common characteristic is the lack of muscle development and greater fatty tissue—especially in hips and breasts (gynecomastia). Due to lower levels of testosterone, individuals with Klinefelter's may have little facial and body hair; the lack of “masculinizing” hormones may also result in infertility. These physical characteristics may cause anxiety and depression, especially for those with noticeable breast tissue. Accordingly, doctors sometimes recommend testosterone therapy. Because those with Klinefelter's are often without symptoms, have vague symptoms, or never seek a diagnosis, it is difficult to estimate how common it is. Estimates range from 1:500 to 1:1,000 in the male population.

Intersex conditions also include hormonal variations, affecting the amount, composition, or functioning of one's sex hormones. Some of these conditions result from imbalances in hormone exposure that occur during fetal development. These imbalances may alter the composition of hormones that the developing fetus is exposed to, thereby impacting the effect of masculinizing and feminizing hormones. These hormonal variations can also impact the brain; exposure to male sex hormones can have a masculinizing effect on the brain and, therefore, on identity. Emerging research is focusing on the connection between the brain and transgender identity, with some theorizing that being transgender may in part reflect exposure to atypical sex hormones during fetal development.

One condition that highlights the difficulty in determining a person's sex is androgen insensitivity syndrome (AIS). A person with androgen insensitivity syndrome is chromosomally male (XY) and produces male sex hormones. Their body, however, is “insensitive” to these hormones; therefore, it does not respond to the testosterone flowing through it. This causes the genetic male to develop female secondary sex characteristics, including breasts, a clitoris, and a vaginal opening. With a visible vagina and invisible male sex hormones, these individuals are typically labeled girls and live as women. The condition may be discovered if medical attention is sought when an adolescent or young adult does not menstruate. Medical imaging may show that despite having external female sex characteristics, internally there are no ovaries or fetus. In fact, testes may be embedded in the abdomen.

What makes AIS especially perplexing from a sex determination standpoint is that someone with AIS is chromosomally and hormonally male, but due to a genetic anomaly, the body does not virilize—that is, become “manly.” Consequently, they have gonads and genitalia that correspond to the female category. This raises the question of what “counts” in sex determination. With androgen insensitivity syndrome—a condition that the Intersex Society of North America reports an incidence of 1:20,000 births—the underlying, invisible biology takes a back seat to the more visible, external manifestations.



The Green Party of Aotearoa New Zealand, CC0, via Wikimedia Commons

**PHOTO 2.2**  
Intersex persons highlight the idea that the biological concept of sex is not a binary

The topic of intersexuality raises questions about both what determines a person's sex and how many sexes there are. According to Fausto-Sterling (1993), sex could be looked at as an “infinitely malleable continuum.” This reflects the fact that sex is determined by a *set* of biological distinctions, rather than a single characteristic. In the majority of humans, this “set of biological distinctions” are internally consistent; that is, if a person has XX chromosomes, they typically also have a higher proportion of female sex hormones and a vagina and ovaries. Yet for some individuals, these criteria do not form a neat and tidy bundle; some individuals have a *mosaic* pattern of sex characteristics, possessing, for instance, a vagina *and* XY chromosomes.

Due to morphological variations, it is sometimes difficult to differentiate an enlarged clitoris from a “micropenis” (one that is 2.5 standard deviations below the median length of an erect human penis). Because the size of this structure varies from human to human, it can be mapped along a continuum, rather than easily labeled “penis” or “not penis.” This morphological variation makes more sense once you recognize that humans are “sexually bipotential”: The tissues comprising male and female gonads and genitalia are essentially the same; in fact, developing fetuses have the capacity to become male *or* female, depending on the hormones they are exposed to during fetal development.

Finally, one could also argue that sex is a continuum, rather than a binary, by focusing on hormones. Because each human has a unique combination of sex hormones—*androgens, testosterone, estrogen, and progesterone*—flowing through the body, one could argue that every individual is a unique combination of male and female, falling somewhere along that continuum. The existence of these variations confounds the idea that sex is a binary. Taken together, it is estimated that 1% to 2% of the population falls

under the broad intersex umbrella or has a mosaic of traits that place them outside the binary.

Returning to the question of how many sexes there are, for Alice Dreger—an historian and medical ethicist—there is no firm biological answer; rather, it is a social construction. Calling something a “social construction” means it is made by humans, rather than a natural fact. In her book *Hermaphrodites and the Medical Invention of Sex*, Dreger (1998) shows that doctors in the 1800s *decided* that there are two and only two sexes. At this time, with new methods of gynecological examination, doctors discovered confusing and contradictory evidence on the question of “sex,” forcing doctors to grapple with the fact that some people have both vaginas and testes. Most medical professionals took the biologically simplistic path of declaring there to be two and only two sexes. According to Dreger, the decision could have been different. She shows that growing social anxieties about homosexuality and women’s changing position in society prompted medical professionals to reduce all of this biological messiness by drawing a clean line between two opposite sexes. In reality, there is no such line that clearly differentiates male and female. Instead, Dreger tells us, it is humans who draw this line and humans who determined that there are only two sexes. Dreger also shows that over time, doctors have continually changed their minds about which criteria makes someone male or female—is it the gonads, the presence of labia, the nature of a person’s sexual attraction? This historical insight sheds light on why it is still so hard to determine whether Caster Semenya is a female: Sex is complicated, and doctors have shifting understandings of which criteria they should focus on.

The question of whether sex can be viewed as a continuum is not merely an intellectual exercise. For some, it is a fundamental question of identity; for others, a question of physical well-being. This is because within the United States those born with ambiguous genitalia have historically undergone medical intervention. **Sex reassignment surgery** (SRS) is an umbrella term for procedures designed to alter the appearance of external genitalia and other secondary sex characteristics. Take the condition called partial androgen insensitivity syndrome, or PAIS. Individuals with PAIS are born with ambiguous genitalia—having either an enlarged clitoris or a small penis; despite advances in diagnostic procedures, it is not always possible to determine which is which. Infants may undergo vaginoplasty or a phalloplasty to “normalize” the appearance of their genitalia. Vaginoplasty typically uses the patient’s own tissue to build a vagina; the goal of a phalloplasty is to create a structure that looks like a penis, even if it may not fully function as one (in terms of sexual response and/or urination).

Sometimes, repeated surgeries are needed. Sex therapist and intersex activist Howard “Tiger” DeVore had 16 genital surgeries, the first at three months and the last at age 23. Doctors prescribed these surgeries to repair his *3rd degree hypospadias*—an opening in the urethra on the underside of his penis. This surgery has a high rate of complications and unsatisfactory outcomes, including scarring that makes erections and urination uncomfortable (Glassberg 1999). Thus, while these procedures aim to normalize the appearance of the genitalia, they may harm sexual functioning.

Doctors may also recommend hormonal therapies. For example, individuals with congenital adrenal hyperplasia (CAH) may receive cortisone treatment to enhance the body's ability to synthesize sex hormones. Men with Klinefelter's syndrome (XXY) and women with Turner's syndrome (XO) may receive lifelong hormone replacement to help their bodies develop—or suppress—secondary sex characteristics, like breast tissue, facial hair, and Adam's apples.

In recent years, sex reassignment surgery has become a controversial issue. Organizations like the Accord Alliance have criticized doctors' efforts to "normalize" people with intersex conditions. Historically, many doctors' goal was to make the body recognizably male or female so that the child could be assigned a gender role. Once assigned a gender role, doctors believed, the child would experience relatively normal gender development. Yet the Accord Alliance objects to these procedures for several reasons. In the past, these procedures occurred without patient or even parental consent. Activists also believe that the bodies of most people with differences of sex development are already normal—in a physiological sense—and do not need fixing; the message that their bodies need fixing may cause psychological harm to children.

Admittedly, some intersex conditions do present health risks. Women with AIS may need surgery if they have testicular tissue embedded in their abdomens, because that tissue may become cancerous. Hormone therapies may be necessary to prevent or minimize osteoporosis, given that low levels of estrogen are linked to low bone density and fractures. Ultimately, the Accord Alliance recommends that doctors medically treat conditions that present a legitimate physical risk. Otherwise, they recommend assigning the child a gender role to facilitate healthy development and waiting to perform surgeries until the individual can make an informed choice.

For historian and medical ethicist Alice Dreger (1998), social psychologist Suzanne Kessler (1998), and sociologist Georgiann Davis (2015), medical treatment reflects not so much the fact that intersex conditions threaten the individual but that they are seen as threatening society at large. Because much of Western society is built around the binary, there is no space or identity for those who do not fit in. These scholars criticize the medical establishment for altering intersex people to fit into society's binary organization of sex; they would prefer that society be altered to accommodate intersex individuals. Today, as many as 11 U.S. states and a handful of countries allow individuals to indicate a nonbinary "X" on their birth certificate or driver's license. While this is not yet a standard option on most official forms, these minor changes suggest a slow social reconstruction in understandings of how many sexes there are.

Finally, our journey through the social construction of sex takes us to a remote village in the Dominican Republic. First documented in the United States by endocrinologist Julianne Imperato-McGinley and her colleagues (1974), one finds clusters of individuals with *5-alpha reductase deficiency*. Locally, these individuals might be called *guevedoces*, which translates as "penis at 12." At her research site, Imperato-McGinley documented 18 children who were raised as little girls. Through their first 10 years of life (or so), they displayed no signs that they were anything but biological females. At puberty, however,

hormones kicked in, resulting in deepening voices, growing muscles, and lengthening of what was previously thought to be a clitoris. Of the 18 cases documented, 17 made a relatively seamless shift to the male gender role. Perhaps due to the frequency of these conditions—with estimates as high as 2% of the population—some experience relief, if not normalcy, when the guevedoces cut their hair, abandon little girls' clothes, and take on a male identity. Even today, this remains a localized phenomenon in a handful of Dominican villages.

Our journey to the Dominican Republic provides several lessons. First, the same human body may be interpreted differently across cultures, showing that the notion of “sex” is a human creation. Second, what is threatening in the United States and in need of fixing may be considered normal in other settings. Had they been born in the United States, these guevedoces would have undergone surgery. In fact, Imperato-McGinley provides a case study of 8 children born in the United States with 5-alpha reductase, who were castrated to prevent masculinization and preserve their female sex characteristics. Later in life, most experienced psychological struggles, given that their bodies continued to send out chemical impulses that told them they were male. Even if medical interventions can “fix” the outsides, they may not be able to “fix” the individual’s insides.

## DEFINING GENDER: WHAT IS IT AND HOW MANY ARE THERE?

While the concept of gender echoes the concept of sex, there are some key distinctions. These distinctions are illustrated in Figure 2.1. **Gender** refers to the set of social distinctions that differentiate women and men. Additionally, we use the terms *masculine* and *feminine* to describe the behaviors associated with men and women. Because we generally assume there are two and only two sexes, we also assume there are two and only two genders. This shows that sex and gender are causally linked: If you are a female, we believe, you are also a woman. Yet while sex is a biological category, gender is a social category: Sex is something we are born with, and gender is something we learn.

Like sex, a person’s gender cannot be determined by any one thing. The *set* of social distinctions that differentiate men and women, girls and boys, includes their appearance, personality, hobbies, preferences and behaviors. A person’s gender may be evident in their hair, given the pattern in the United States for men to have shorter hair and women to have longer hair. It is also evident in our bodies; how much space we take up and whether

**FIGURE 2.1** Comparing Sex and Gender

### SEX

- Biological
- Born with
- Male, female, intersex
- Chromosomes, hormones, gonads, genitalia, brain

### GENDER

- Social
- Learned
- Masculine, feminine, androgynous
- Appearance, hobbies, talents, interests, etc.



and how we cross our legs can also be tied to gender socialization—not sex. Gender may also be evident in color-coded clothes or accessories that declare one’s interests—a skateboard, for example, or a pink cell phone cover. Would I be wrong to assume that every short-haired individual with a skateboard was a guy? Yes, but statistically I would be right more often than wrong.

The notion of “gender” does not encompass every facet of the human experience; some aspects of our lives are more gendered than others. If I asked 200 students to write the same sentence on a notecard (e.g., “My favorite class this semester is sociology”), I may be able to predict the writer’s gender about 85% of the time. There is something about most people’s writing—large and neat versus small and messy—that correlates with gender. If I asked this same group their favorite movie, I may be able to predict their gender about 65% of the time. Many female students favor “chick flicks” like *The Notebook*, *Love, Actually*, and *The Fault in Our Stars*, yet they may also like Harry Potter, the Marvel series, or anything with Will Ferrell. If I asked students to identify their majors, I would probably have success in labeling aspiring teachers as women and aspiring engineers as men; at times, I would be wrong, and I would have a hard time predicting those studying biology and marketing. Finally, if I asked students their favorite ice cream flavor, it may be nearly impossible to predict their gender. To my knowledge, there is nothing gendered about ice cream. What’s the point? To show that many aspects of our everyday lives are gendered, but not every aspect is.

During the 1970s, psychologist Sandra Bem developed a tool to measure gender distinctions called the **Bem Gender Role Inventory** (BGRI). Comprised of 60 questions, the BGRI allows individuals to rate themselves on an array of personality traits, such as aggressive, loyal, friendly, dominant, and sympathetic. Rather than answering yes or no, the individual selects a score ranging from 1 to 7 (“almost always” or “almost never”) to describe the degree to which the term applies to themselves. After tallying scores, the individual is categorized as feminine, nearly feminine, androgynous, nearly masculine, or masculine. **Androgyny** refers to the combination of male (andro) and female (gyn) traits. One’s score is meant to capture the degree to which the test-taker matches the stereotypic traits associated with men and women.

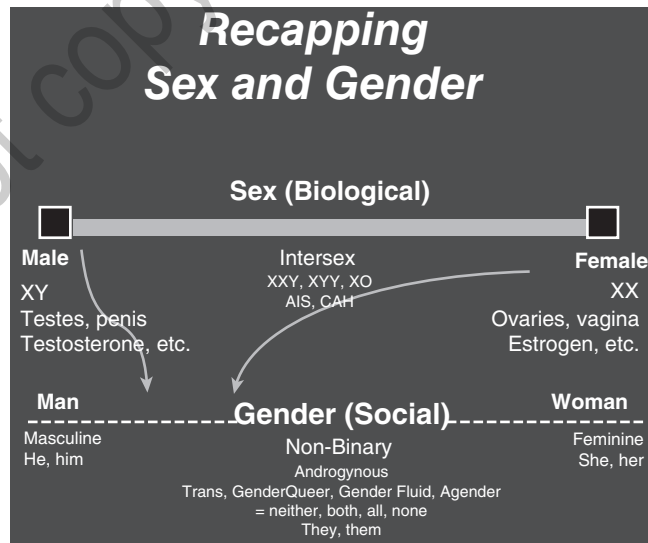
Sandra Bem (1981) developed this tool based on the theory that people process behaviors based on sex-linked associations that make up what she called a “gender schema.” Her goal was not to identify a list of traits that “actually” describe masculinity and femininity. Rather, her goal was to develop a model of how categories like gender are created and internalized. By calling gender a “schema,” Bem captured the notion that gender operates as a mental device for processing social cues. By creating a simplified construct called gender, and dividing the social world into two broad categories, gender becomes a tool for organizing our social world. Her theory asserts that we become boys and girls, and later men and women, due to the fact that dividing tasks and identities up into two complementary camps makes life easy.

Researchers question the idea that a person’s gender expression can be captured by a number, and have also questioned the specific traits used in the BGRI, yet it is still a

useful tool. Even today, there are consistent differences in the mean scores of male and female students in my college classes (I have less data on nonbinary students). Bem's Gender Role Inventory also encourages us to think about gender expression as a continuum. Although we conventionally use the terms *masculinity* and *femininity* to describe the gender role expectations associated with males and females, we all combine masculine and feminine traits. Someone may choose a career in social work—a traditionally feminine pursuit—yet they may execute their job with a high level of assertiveness—a traditionally masculine trait. Further, the same person may manifest different traits across settings, showing a high degree of empathy in one and a high degree of aggression in another. Finally, young girls may identify as “tomboys” during childhood but transition into “girly-girls” as young adults. All of these examples show the fluidity of gender. These ideas are captured in Figure 2.2.

When thinking about gender as a continuum, one can ask who has greater freedom in navigating the continuum. Do men and women have equal freedom to blend traditionally masculine and feminine traits? Evidence from the popular culture suggests that females have greater freedom. Clothing retailers routinely market to women “boy shorts,” “boyfriend jeans,” and the “boyfriend shirt”—garments that are relaxed and sexy, all at the same time. “Skinny jeans” became popular for men in the 2010s, but no one dared call them “girlfriend jeans.” Similarly, while I have never seen an ad for cologne featuring a man wearing his girlfriend's negligee, I have seen numerous ads featuring a seductive woman wearing her boyfriend's oversized shirt (and nothing else!). There are, in fact, countless examples where young girls and women are applauded for participating in

**FIGURE 2.2** Illustrating Sex and Gender



typically masculine activities, yet young boys may be quickly admonished if they show an interest in putting on makeup, painting their nails, or taking dance classes.

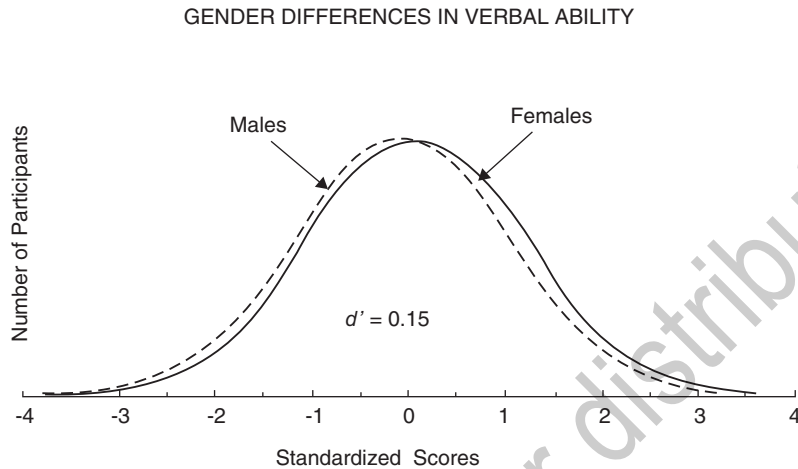
Scholarly research also shows stricter gender policing for young boys than young girls. Sociologist Emily Kane (2006, 2012) shows that parents encourage daughters who express “gender nonconformity” but express fear of gender nonconformity among sons. Worried their sons might turn out to be gay, or just perceived as such, fathers reacted negatively to sons’ requests for tea sets or ballet lessons, Kane found. Fathers felt responsible for making sure their sons were sufficiently masculine and seemed to be more accepting of having a gay daughter than a gay son (Solebello and Elliott, 2011). As boys grow older, they take on the role of gender police, teasing boys who associate with girls, marking boundaries between themselves and “cootie-ridden” girls (Chu 2014; Thorne 1993), and enforcing the “guy code” that applauds aggression and athleticism but condemns emotionality (Kimmel 2008).

In a society where women have fought for more rights, it is perhaps ironic that women have more freedom when it comes to gender expression. Women, after all, can choose to wear skirts, dresses, or pants—without fear of reprisal! Meanwhile, men in Western societies pretty much stick with pants. Heck, men cannot even drink diet soda without worrying about being too girly, hence products like Dr. Pepper 10, whose taglines declare that it has “10 manly calories” and that “it’s not for women.” What does it mean when something as benign as diet soda can threaten one’s masculinity?

According to Raewyn Connell (1995), efforts to police men’s gender expression are about protecting male power. In many societies, masculinity is defined as good and valuable, and femininity is defined as less valuable. The things that men do are celebrated. The heralding of all things masculine is highlighted by author and activist Gloria Steinem (2019, 151), who once suggested that if men menstruated, it would become a “boast-worthy event,” with men bragging about the strength of their flow (“I’m a three-pad man!”); no longer would this monthly event be treated as a “curse.” Women, then, are applauded when they do “masculine” things, yet when men stray too far toward the feminine end of the gender continuum, they are punished. These sanctions and admonitions (“Don’t be such a sissy,” “Little boys don’t play with Barbie”) reinforce the gender hierarchy by rewarding boys when they act like real men and devaluing things associated with femininity.

The idea that gender is a continuum makes even more sense once we recognize there is considerable overlap between men and women. When it comes to personality traits, cognitive capacities, communication skills, and social attitudes, we sometimes speak of men and women as the “opposite sex.” Sociologist Michael Kimmel (2010) calls this the *interplanetary theory of gender difference*, because it implies that men and women come from entirely different worlds. Yet research generally supports the **gender-similarities hypothesis**, showing that there are few statistically significant social differences between men and women. This hypothesis is depicted in Figure 2.3. When researching cognitive skills, communication styles, and personality traits, psychologist Janet Shibley Hyde (2005, 2016) and others (Zell, Krizan, and Teeter 2015)

**FIGURE 2.3** The Gender Similarities Hypothesis—Men and Women Are More Alike Than Different



have found either small or nonexistent differences between men and women. The gender differences that did exist emerged in two areas: physical aggression (Hyde 2005) and sexual attitudes and behaviors, like consumption of pornography and masturbation (Petersen and Hyde, 2010).

Rather than emphasize differences between men and women, it is important to recognize that there is more variation *among* women and *among* men, and relatively few differences between the “average” man and woman. More differences arise *within* the categories of male and female, so that the most nurturing female and the least nurturing female are more different from one another than the “typical man” and “typical woman.” Ultimately, men and women have more in common with one another than they have differences.

### NATURE VS. NURTURE: HOW THE ESSENTIALIST AND SOCIAL CONSTRUCTIONIST PERSPECTIVES EXPLAIN GENDER DIFFERENCES

When it comes to both individuals and groups, how can we explain the differences among us? While men and women are in many ways similar, scientists are interested in understanding the differences that do exist. This section explores two ways of explaining gender differences: the essentialist and social constructionist perspectives. The assumption, on both sides, is that some gender differences do exist—whether in terms of personality, communication styles, interests, or abilities. Where the two camps diverge is in how they explain these differences.

Among natural and social scientists, as well as philosophers, efforts to understand human variation are referred to as the **nature vs. nurture debate**. The goal of the

debate is to assess the degree to which differences between humans reflect, on the one hand, biological forces (nature) and social influences (nurture) on the other. This is not merely an academic debate. As I show throughout, explanations favoring the nature perspective have been used to justify social inequality. When it comes to gender expression, it is not nature *or* nurture; rather, it is how your nature is nurtured.

### Nature and the Essentialist Perspective

The essentialist perspective captures the nature side of the debate, arguing that human differences are rooted in biology. When applied to the question of gender, this perspective asserts that underlying biological factors produce social differences among men and women. These biological factors include the structure and functioning of the brain, hormones, and genetics (DNA). Another term for this perspective, *biological determinism*, captures the basic idea: that human behavior is *determined* by underlying biological forces.

### Gender Differences and the Brain: Telephone Cord or Tape?

As shown in satirical illustration, the notion that differences in the brain can explain social differences between men and women circulates widely in the popular culture. Louann Brizendine (2006, 2011), author of *The Female Brain* and *The Male Brain*, has graced the morning talk shows and has been reviewed positively in media outlets including *Elle* magazine, CNN, and by Oprah herself. She argues that gender differences in behavior—ranging from emotional expression to sexual desire to depression and well-being to the nature of friendships—are hardwired into men’s and women’s brains. Her image of the female brain is that of a tangled telephone cord; the male brain is represented by a sticky role of tape. Men’s brains, she suggests, are sticky; information sticks where it lands. Conversely, the image of women’s telephone cord brain suggests that everything is interconnected, with information flowing between various domains. This image further suggests that men compartmentalize their thoughts and may have a hard time connecting emotions to language and rationality.

While it was once believed that men’s larger brains gave them superior intelligence, researchers today focus on the structural differences in men’s and women’s brains and the hormones flowing through them. To explore gender differences in the brain, researchers use a variety of techniques: analysis of living rodents, autopsies of deceased humans, and brain imaging of living humans (e.g., fMRI, or functional magnetic resonance imaging).

According to neuroscientists, the brain is divided into two hemispheres—or halves—each with its own functions. The pioneering work of Nobel Prize winner Roger Sperry (1961) and the ongoing research of Michael Gazzaniga (2005, 2011) show that the brain is *lateralized*: The left side is responsible for linear reasoning, systematic thought, and verbal skills, while the right side of the brain is responsible for holistic and interconnected reason, creative thought, and visual thinking. In his book *The Essential Difference*, Simon Baron-Cohen (2003) argues that a separation exists between these two brain

hemispheres for males, so that their brains are uniquely suited or specialized for thinking in math and science (S-type brains), while different hormonal exposures result in female brains uniquely suited for language and empathy (E-type brains).

Further, some cognitive neuroscientists point out, women have a denser *corpus collosum* than do men. The corpus collosum is the structure of nerve fibers that connects the brain's two halves. With a denser corpus collosum, it is believed that women can communicate more efficiently across the brain's two hemispheres. They can unite emotion and reason and linear processing and holistic thinking. MRI studies show that when women are given an array of verbal tasks, both halves of their brains "glow," while men's brains show activity on only one side. Some argue that this structural difference partially explains why women tend to be more emotionally expressive than men (Blum 1997).

### The Sociological Response to Brain Research

Sociologists are not huge fans of the essentialist perspective: They are wary of the idea that social differences between men and women can be traced back to underlying biological differences. Neuroscientists, as well, debate how to best measure and interpret gender differences in the brain. One critique of the essentialist perspective begins with the observation that the brain is a "plastic" organ. Through repetition from external stimuli, the brain can change in much the same way that pull-ups change the arms, back, and shoulders. Researchers ask, then, whether gender differences in the corpus collosum exist at birth. According to the sociological critique, the greater density in women's corpus collosum may reflect different social experiences, rather than an innate biological difference. Perhaps the denser brain tissue is an adaptation in women's brains, one that emerges through socialization and the frequent use of emotional reasoning among women. In addition, some point out that a lot of research in neuroscience is limited methodologically: based on small sample sizes, finding small measured differences, and based on poor understandings of how neuroimaging (fMRI) actually works. Researchers also have limited understanding of how simple, observable gender differences in brain regions relate to the more complex interconnections in the brain that produce social behaviors.

A second shortcoming is that some of this research is based more on ideology than rigorous science. Psychologist Cordelia Fine (2010) refers to this as **neurosexism**: the tendency of researchers to use science to perpetuate and justify sexist beliefs. One hundred years ago, when it was shown that men's larger brains did not mean they were more intelligent, researchers began searching for new evidence showing men's superiority. More recently, when it was shown that men's brains have a less-dense corpus collosum and more specialization on the side of the brain that governs scientific thinking, academics—including then-president of Harvard Lawrence Summers—argued that this is why there are relatively few women in STEM professions. Sociologists are concerned that the essentialist perspective is embraced because it provides easy explanations for why men and women are different. Cordelia Fine cautions us from uncritically accepting

the *neurofallacies*—lies or oversimplifications—promoted by some neuroscientists; she encourages us to pay greater attention to how biological and social forces *interact* to produce gender differences.

### “Are You PMS’ing, or Something?”: Hormones and Behavior

Another focus of the essentialist perspective is the impact of hormones on behavior, the theory being that social differences between men and women can be explained by underlying hormonal differences. According to this perspective, men are more aggressive and more sexual than women because they have higher levels of testosterone; alternately, female sex hormones, especially oxytocin, make women more nurturing and empathetic.

Research on testosterone’s effect on behavior sometimes involves manipulating the level of testosterone in lab animals—cutting off its supply through castration or increasing its level with injections—followed by observation of behavior. While some researchers find that aggressive behaviors decline when lab animals are castrated, others find that the dominance hierarchies that existed prior to castration persist even when testosterone is cut off (Francis 2004). While research involving humans generally draws a link between high levels of circulating testosterone and acts of aggression, many questions remain regarding the precise link between testosterone and behavior (Batrinos 2012; Kuepper et al. 2010). These questions are not merely academic: Research on the link between testosterone and antisocial behaviors has inspired suggestions on how to fight crime. Some studies have found a link between criminality and high levels of testosterone in adult men (Ellis, Farrington, and Hoskin 2019), and one widely cited German study found that during the 10 years after release from prison, sex offenders who agreed to voluntary castration had a recidivism (reoffending) rate of 3%, compared to 46% among those not castrated (Wille and Beier 1989). Ethical considerations have prevented these insights from shaping crime-fighting strategies, but in a time when genetic testing and science are being used for all sorts of social purposes, screening for potential criminal behavior may become common practice.

Advertisements on television and social media fuel additional questions about the link between testosterone and manliness. A pandemic of “low-T” seems to be sweeping the nation, with advertisements encouraging viewers to ask their doctor if hormone replacement is right for them. Abbott Labs’ topical Androgel is promoted as a treatment for problems associated with low levels of testosterone, including decreased muscle mass, flagging sex drive, and depressed mood; unofficially, it is endorsed by some bodybuilders as a tool to “get big.” Is it true—can masculinity be purchased in a tube?

On this point, researchers are skeptical. According to Robert Sapolsky (1998), a Stanford professor of biology and neurology, it would take a 4-fold increase in testosterone levels to produce a measurable increase in aggressive behavior. Pharmaceutical products aren’t this powerful, and it is difficult to conceive of a real-life scenario where a human would experience a 4-fold increase in testosterone. Sapolsky urges us to focus on how testosterone works in the real world, where testosterone levels ranging from

well below normal to twice the normal range are associated with similar levels of aggression. This suggests that aggressive behaviors cannot be linked directly to testosterone and that higher levels of testosterone do not cause higher levels of aggression or stronger expressions of manliness.

Researchers have also studied the connection between hormones and behaviors among women—based on the suggestion that women’s nurturing capacities are partially a matter of their hormonal makeup. Oxytocin, a hormone released in high doses during childbirth, has been called the “love hormone” and the “cuddle chemical.” Researchers have connected it to the maternal ability to produce milk, nurse, and bond with newborns, along with the ability to quell anxiety and increase feelings of trust (Carter 2017; Hurlemann et al 2010). This leads to the belief that women are naturally suited to nurturing roles and the expression of empathy.

Women’s hormonal fluctuations have also been linked to negative behaviors. Hormonal variations have, for example, been linked to women’s mood swings, irritability, and forgetfulness. Researchers have labeled this bundle of symptoms as premenstrual syndrome, or PMS, with estimates that upward of 19% of women experience PMS (Strine, Chapman, and Ahluwalia 2005). Perhaps 2% to 6% of women’s symptoms are so problematic that they have been labeled a disorder: premenstrual dysphoric disorder (PMDD). PMDD is listed as a psychiatric mood disorder in the American Psychological Association’s *Diagnostic and Statistical Manual (DSM-V)*.

That PMDD has been conceptualized as a “disorder” reflects older perspectives that framed women as fundamentally crazy. Up until 1980, *hysteria* was included in the *DSM* as a psychiatric disorder. Influenced by Victorian thinking on sex and Sigmund Freud’s psychoanalytic theory, hysteria was conceived as a psychological disturbance manifesting in stress, anxiety, and nervousness, thought to be caused by problems in the reproductive system. *Hysterectomies* were the cure. While hysteria no longer exists as a medical diagnosis, and hysterectomies are now given largely to improve physical health and not mental health, the belief persists that women’s hormones sometimes make them “crazy” (Browne 2015; Ussher 2011).

### Sociological Critiques of Research on Hormones and Behavior

How do sociologists respond to the essentialist notion that women’s hormones make them alternately compassionate and crazy? First, they critique the methods used to investigate this connection. It’s easy to find negative outcomes if that’s all you look for. Because few researchers assume there could be any positive effects associated with menstruation—that women may experience an increase in creativity or mental focus—they do not ask about them; consequently, researchers conclude that menstruation leads to problematic conditions like PMS and PMDD (Figert 2017), thereby reinforcing a powerful stigma surrounding menstruation (Johnston-Robledo and Chrisler 2020).

Some even suggest that PMS is socially constructed—a human creation, more than a scientific fact. While “periods” are real and are accompanied by real shifts in hormones



and physiological changes, the social meaning given to this event varies across cultures. For the Kalahari women profiled in Marjorie Shostak's (1981) classic anthropological tale, *Nisa: The Life and Words of a !Kung Woman*, the notion that one's period could be difficult or traumatic was incomprehensible. While the underlying symptoms may have been present, menstruation was experienced by the !Kung women as a nonevent. In general, research shows variation across cultures in terms of the meaning of menstruation, what it feels like, and how it should be managed (Spadaro, d'Elia, and Mosso 2018).

Similarly, it has been suggested that PMS and PMDD are the creation of the psychological and medical establishment, who stand to benefit by creating a set of diagnostic criteria, a reliable cadre of patients, and a market filled with products to cure these conditions (Figert 2017; Patterson 2014). Accordingly, women have come to define and interpret their physical symptoms as a problem because medical professionals have taught us to interpret them as such. Feminist scholars assert that current thinking about women, hormones, and PMS is a contemporary example of male-dominated social institutions trying to control women's bodies. If scientific authorities can convince the public that women's mental states periodically break down, it may be possible to exclude women from important areas of decision-making, such as politics, economics, and the military.

So how do sociologists and others critique the notion that testosterone causes men to behave aggressively and engage in risk taking? These hormone skeptics acknowledge that men's higher levels of testosterone are associated with higher levels of aggression at the group level, yet they raise questions about the interplay of hormones and social context. The production and circulation of testosterone in the body is malleable, fluctuating both throughout the day and life cycle. Social context and environmental conditions significantly shape hormone levels.

As science writer Cordelia Fine (2017) puts it, "Although we're used to thinking of certain kinds of behaviors as 'testosterone fueled,' in many cases it would make more sense to think of actions and situations as being 'testosterone fueling'" (p. 141). In other words, higher levels of testosterone don't *cause* aggressive behavior; rather, exposure to aggression and competition causes an increase in testosterone. This perspective is known as the **biosocial model of status**, and researchers show that competition in chess, tennis, soccer, or almost any other sport causes an increase in testosterone level prior to play, followed by a later spike or fall depending on whether one wins or loses the contest (Casto and Edwards 2016; Mazur and Booth 1998). In fact, simply watching an athletic contest can increase testosterone levels (Carré and Putnam 2010). What's more, researchers have also found this pattern in female athletes and competitors (Casto, Rivell, and Edwards 2017; Hamilton, van Anders, Cox, and Watson 2009). These findings suggest a chicken-and-egg problem: Do hormones cause the aggressive behavior in men, or do men's opportunities to engage in aggressive behaviors cause hormone levels to rise?

Finally, the environmental influence on hormones is evident in studies exploring the relationship between hormones and life events like marriage and divorce. Researchers find higher levels of testosterone among men who are pursuing new mates (Roney and Gettler 2015) as well as those undergoing divorce (Mazur and Michalek 1998). Lower

levels exist among married men (Gray, Kahlenberg, Barrett, Lipson, and Ellison 2002), and among new fathers, testosterone levels are lower still (Gettler, McDade, Feranil, and Kuzawa 2011; Kuo et al. 2018). Some experts argue that lower levels of testosterone “may facilitate paternal care in humans by decreasing the likelihood that a father will engage in competitive and/or mating behavior” (Gray et al. 2002, 193) and that the hormonal response is an evolutionary adaptation that facilitates male caregiving of vulnerable infants (Gettler et al. 2011). Alas, many of these same hormonal fluctuations are also evident in women (van Anders 2013). Given these findings, fluctuations in hormones are more of a reflection of engaging in nurturing and competitive *behaviors*, rather than essential differences in male and female *bodies*. This reinforces the conclusion that one should not think in terms of nature *or* nurture but in terms of how one’s nature *is* nurtured, and the importance of social context.

### Dangers of the Essentialist Perspective

Throughout time, the essentialist perspective has been used to justify bad behaviors. The phrase “boys will be boys” exemplifies the dangers of embracing the essentialist perspective. It suggests that behaviors ranging from boys’ rough-and-tumble play, to their occasional violence and destruction, to their sexual misdeeds are biologically rooted. The perspective aligns with “evolutionary psychology,” whose research is sometimes interpreted as suggesting that men are hardwired to “spread their seed,” that is, biologically programmed to maximize their genetic potential through sex and reproduction. Consequently, cheating and other bad behaviors are an expected consequence of men’s hormonal makeup.

Magazines such as *Psychology Today* and popular books like Eric Anderson’s (2012) *Monogamy Gap: Men, Love, and the Reality of Cheating* and Christopher Ryan and Cacilda Jetha’s (2011) *Sex at Dawn: How We Mate, Why We Stray, and What It Means for Modern Relationships* bring this perspective to the public. According to Leon Seltzer (2009) of *Psychology Today*, testosterone induces “a biological urge that sooner or later demands expression, [and] literally guarantees the survival of the species.” Further, he states, women are “expressly designed to alleviate men’s sexual tensions.” While acknowledging that men can learn to resist these urges, the lingering message is that biology is more powerful than social learning and that sexual aggression is to be expected.

The essentialist perspective has also been used to justify gender inequality. Throughout the 1800s, women fought for access to higher education. Then-Harvard president Charles Eliot refused to admit women to his esteemed university. In an 1899 speech at Wellesley College—a women’s school—he proclaimed that “women should concentrate on an education that will not injure women’s bodily powers and functions.” A rigorous liberal arts education was inappropriate for women because “overstudy” might result in “brain fever”; moreover, women who used their “limited energy” on their studies might endanger their “female apparatus” (Horowitz 1999). To prevent their ovaries from shriveling and drying up, he advised that women be given a domestic form of education, lest they be harmed by trying to compete with the boys.

These quotes of yesteryear would be downright funny if they were not echoed in recent years. As noted earlier, in 2005, then-president of Harvard University Lawrence Summers suggested that women's underrepresentation in math and science careers could be partially explained by their lower levels of innate ability. While admitting that women rarely receive as much mentoring in math or science, and are often socialized to enter the "helping professions," he also suggested that women's brains may not be designed for math and science. Such a view perpetuates gender inequality by suggesting that women's underrepresentation in technical fields is a biological fact and that little can be done to change it.

Essentialist arguments have also been used to limit women's roles in the military. For example, some have argued that women are not capable of serving in combat because they are too emotional and that their emotions are especially unpredictable during menstruation. Further, men may feel a biological imperative to protect women soldiers on the front lines, thereby compromising the mission. During 2012, amid controversy, more combat roles were opened to women. Efforts to integrate women into combat roles reflect both changes in the nature of combat duties and shortages in military personnel. Resistance to these changes illustrates the tendency to attribute gender differences—and limit women's opportunities—to underlying biological forces.

### Nurture and the Social Constructionist Perspective

An alternate way of viewing social differences—in this case the differences between men and women—is through the lens of nurture, rather than nature. The social constructionist perspective captures the nurture point of view; it explains social differences as a reflection of social forces. When applied to the question of gender, this perspective asserts that socialization and social interaction powerfully shape gender differences. The social context in which humans are socialized provides the setting in which gender role expectations are created. The "social context" refers to macro-level aspects of society, including the economy, religion, technology, politics, and so forth. From this perspective, gender roles do not emerge from uncontrollable biological forces but from the social circumstances in which humans live. Social forces (nurture), then, shape the underlying biological propensities (nature) found in humans.

The social constructionist perspective gains power by observing variations in gender expression cross-culturally and historically. If gender differences were simply a reflection of biology, we would expect men and women to take on the same roles, no matter the time or place. Yet that is not the case at all; in fact, gender role expectations vary greatly across cultures and historical periods. To explore the social constructionist perspective, we must first travel abroad and then back in time.

### The Study-Abroad Trip

From a sociological perspective, much is learned by looking at what happens in other cultures. We learn, for example, that what we take for granted as normal and natural may not necessarily be so. To illustrate this point, we need to take a metaphorical

study-abroad trip. On this trip we will pair up with anthropologists, since they too believe that much of the world, including how we define femininity and masculinity, is socially constructed. The goal of our journey is not simply to describe the ways that other cultures and societies have defined their gender role expectations but to explain why these definitions emerge.

Our first stop is Papua New Guinea, a culturally and ecologically diverse island nation in the Pacific Ocean. As a nation composed of hundreds of indigenous ethnic groups speaking perhaps as many as 825 languages, there may be no other area on earth that has more to offer in terms of lessons on cultural variations. This is one reason why anthropologist Margaret Mead (2001) chose Papua New Guinea as the setting for her groundbreaking 1935 work, *Sex and Temperament in Three Primitive Societies*. After getting acclimated with the local terrain and culture—starting with a rugby or cricket match in the capital city, followed by some mountain hikes and sightseeing trips to volcanoes—our exploration of gender roles begins.

Guided by Margaret Mead, we discover that the many tribes of this island nation challenge common assumptions of what it means to be male and female. During her time with the Arapesh tribe, Mead found that both men and women were generally pacifists who organized social roles in an egalitarian way; men *and* women were cooperative in temperament and shared duties of diplomacy, agricultural production, and child-rearing. Among the Mundugumor, by contrast, she found that both men and women had “war-like” natures. With traditions in headhunting and cannibalism, male and female members of this remote tribe were described by Mead as virile, jealous, violent, and arrogant. Rather than embrace child-rearing and their supposedly natural tendency to nurture, Mundugumor women generally regarded motherhood as a time of stress and inconvenience. Finally, among the Tchambuli, gender roles were the converse of what is observed in most Western societies: Tchambuli women took on dominant roles and were deeply involved in the acquisition of food and trade between villages. Men, by contrast, were vain and preoccupied by bodily decoration. Among these three tribes alone, Mead discovered significant variation in men’s and women’s social roles.

A trip around the world, guided by anthropologist George Murdoch, would yield similar lessons. During the 1940s, to document cross-cultural variations, Murdoch and his colleagues developed the “Cross-Cultural Survey,” known today as the Human Relations Area Files. The goal of this project was to develop a database of information on the global variations in cultural traits, including techniques of child socialization, food preparation, war and diplomacy, and gender roles. Encompassing 400 cultural groups, the Human Relations Area Files reveals that while men generally act as providers and protectors in a majority of world cultures, and women generally take on domestic tasks (food preparation and child-rearing), there are also variations across the globe in who takes on which tasks, so that in some cultures men nurture and women provide.

While most of the world’s cultures are patriarchal in organization, some adhere to a matriarchal model. **Patriarchy**, meaning “rule of fathers,” refers to a model of social

organization where men are dominant in terms of economic, cultural, and political affairs. This style of social organization reinforces the notion that men are “breadwinners” and that they are naturally inclined toward rationality and leadership. In many cases, this form of social organization produces social arrangements where men are superior and women subordinate. **Matriarchy**, by contrast, refers to a form of social organization where women play dominant roles. Although few in number, matriarchal societies—such as the Iroquois Indians of North America—are ones where women perform key roles in leadership and moral authority.

In traveling to the desert Southwest of the United States, we would learn that the Hopi and Navajo tribes have traditionally followed **matrilineal** family structures, rather than patrilineal structures. Matrilineal societies trace lines of descent and the handing down of names, property, and social affiliation through the mother’s line. Although the specific forms of matrilineal organization vary, the take-away point is that significant cross-cultural variation exists in the social organization of gender—and that men do not rule in all places or at all times.

Our next stop in understanding cross-cultural variations in gender roles is the small southern European country of Albania. Although we would find some modern comforts in the capital city of Tirana, and beautiful beaches on the coast, our journey into the mountainous rural areas would reveal many traditional customs. One older custom that seems to be dying out is the **sworn virgin**. A sworn virgin is a woman who takes an oath of sexual abstinence in young adulthood and then “becomes” a man. She switches from a domestic role and begins earning money, protecting the family, wearing pants, carrying weapons, and socializing with men. Rather than regarding sworn virgins with scorn



**PHOTO 2.3**  
Albanian sworn virgins illustrate the idea that gender is flexible and *socially constructed*.

or skepticism, residents in these areas consider them to be normal and sometimes don't even notice that they are not biologically male. One of the remaining sworn virgins is depicted in Photo 2.3.

In some ways, the sworn virgin is similar to the Afghan **bacha posh**—which in the Dari language means “dressed up as a boy.” Bacha posh are girls who dress as boys, take jobs outside the home, attend school, and provide protection to female family members. Where they differ from sworn virgins is that bacha posh is typically not a lifelong role. Rather, around puberty, girls typically transition back into a female gender role. This transition—which adolescent girls sometimes resent or find difficult—is motivated by parents' desire to marry them off.

By journeying to Albania and Afghanistan, we learn an important lesson: Different gender role expectations emerge from surrounding structural conditions. This is what sociologists mean when they say that the macro level—or big picture—shapes many aspects of our day-to-day experiences. In Albania, much of the 20th century was characterized by wars and “blood feuds” (rivalries between families and clans); over time, this violence resulted in an imbalanced sex ratio (more females than males). In addition, both Albania and Afghanistan are patriarchal societies, where women have little value and few opportunities. The ancient legal codes of Albania, known as the *Kanun*, defined the value of women as equivalent to 12 oxen. Given these conditions, gender role expectations evolve to solve a social problem: How can a society make sure that “men's work” gets done when there are not enough men? Instead of loosening women's gender roles and allowing them to act as providers and protectors, these societies allowed women to go “undercover” as men. This creative solution—Albania sworn virgins and Afghani bacha posh—evolved as a way of creating more “men” in society while allowing the patriarchal order to remain in place.

Today, Albania's sworn virgins are disappearing. As peace and modernity have come to this small European country, women have gained new freedoms, and new solutions have emerged to resolve feuds between families. While the examples from our metaphorical trips abroad may seem strange, the lesson is simple: Rather than creating gender role expectations out of thin air, definitions of what is appropriate for men and women emerge from the broader social and cultural environment. Moreover, when broader social conditions change, so do gender role expectations.

Our journey so far has yielded this lesson: In some societies women take on “men's roles” and in others men take on “women's roles.” Yet what about the possibility that some societies construct gender roles beyond the binary? By journeying to Mexico, the American Southwest, and India we learn that some societies recognize more than just men and women; they recognize three genders. Whether the *muxe* of Mexico, the *berdache* of the Plains Indians, the *nadle* of the Navajo, the *hwame* of the Mohave, or the *hijra* of India, these **third gender** categories reveal how complicated the notion of gender is and how creative human beings are in constructing their social worlds.

Although the social roles of third-gender people vary cross-culturally, some commonalities exist. Let's use the berdache of the Plains Indians as a starting point. In his book *The Spirit and the Flesh*, anthropologist Walter Williams (1992 [1986]) describes the



**PHOTO 2.4**  
Third-gender or  
two-spirit people.

iStockphoto.com/D. Talukdar

berdache as biological males who take on the female gender role (in dress, behavior, work roles, and social responsibilities). In other Native tribes, they may take on traditional male roles, such as going to war and participating in sweat lodge ceremonies. What is common among societies with a third gender category is that the individual in question dresses and acts “as a woman,” yet that individual is regarded as neither male nor female; they are an entirely separate category.

Another variation in the third-gender category is the role they play in sexual encounters and family relationships. Among *muxe* living in the Mexican state of Oaxaca, partnerships with biological men and the formation of families are typical. Among the Lakota Indians of the American Plains, partnerships with men may be allowed but primarily among widowers. In such cases, the third-gender individual may take on a maternal role, but they do not become biological parents. Finally, among the *hijra* of India and Pakistan, partnerships with biological men are allowed, although it is expected that the *hijra* will take the “passive role” in sexual relations (Agrawal 1997).

Variations also exist cross-culturally in the degree to which third-gender people are stigmatized. Lynn Stephens (2002) notes that the *muxe* of Oaxaca, Mexico, are sometimes targeted or ridiculed—usually by men and more so in urban areas than traditional rural communities. In India and Pakistan, “*hijra*” has been institutionalized as a legal category. There, formal documents and identity cards permit individuals to check this third option—which suggests social recognition and possibly even acceptance. Muhammad Azfar Nisar (2018) of Lahore University in Pakistan has shown, however, that even with this option, many *hijra* choose not to register as such, given “the patriarchal stigma, high compliance costs, and limited material benefits” (p. 59).

That “two-spirit people” is a preferred term for Native American berdache provides further insight into social and cultural attitudes. The notion of having “two spirits” reflects these cultures’ beliefs that third-gender people possess the traits of both men and women, and that they combine them in unique and powerful ways (Lang 1998); some are even thought to have special powers. That said, dangers still exist. In her book *Men as Women, Women as Men*, Sabine Lang (1998) reports that among the Mohave, two-spirit persons might be killed if they are suspected of failing to produce rain or a harvest. To be fair, medicine men or spiritual leaders of any sex or gender can be killed if they are suspected of being frauds.

### Exploring Activism: Challenging the Gender Binary on College Campuses

Virtually everywhere we go, we find a world divided into two—and only two—gender categories. The gender binary is evident when buying children’s clothing and toys, where stores and websites are neatly divided into boys’ and girls’ sections; the lesson is reinforced in school, where teachers instruct children to form girls’ and boys’ lines and organize them into friendly competitions pitting one against the other. And when students go off to college, they find that higher education is also organized around the binary: When it comes time to go to the bathroom, students face two options—male and female restrooms—and when they apply to live in a dorm, they often find that they are restricted to a roommate of the same sex/gender.

But what about individuals who do not identify with one sex or the other? What about those who identify as **transgender** or nonbinary? Transgender people do not identify with the gender they were assigned at birth; they may or may not identify with the other gender. Some trans people identify as nonbinary. Nonbinary people do not identify as male or female; they may identify as neither gender or a combination of both genders. Some nonbinary people may identify with all genders or not identify with the notion of gender at all (sometimes called *agender*).

Increasingly, trans activists are working to make the college campus a comfortable place. Campus support groups, for example, have broadened their names and missions, adding a *T* to the mix (“lesbian, gay, bi, and transgender”). While transgender individuals have their own unique struggles—determining whether and how to transition, for example—they generally share with the lesbian and gay community the fact that their gender and sexual expression lie outside the mainstream. Clubs and resource centers on campus, then, work to provide a safe space for such students and educate the campus as a whole about the diversity of gender and sexual identities. They may sponsor weekly support groups, for example, or host a “Transgender Day of Remembrance” (each year on November 20), which brings attention to the violence experienced by trans people.

On some campuses, student activists have lobbied for “gender-inclusive housing” (GIH) options. Some transgender activists see this as an issue of equal opportunity and



legal recognition of their gender expression. For many students, gender-inclusive housing is essential for mental health and even physical well-being. According to Miami University of Ohio's (2021) website, "Gender-inclusive housing is an environment where student housing is not restricted to traditional limitations of the gender binary (male/female). Instead, gender-inclusive housing is based on the notion that more than two genders—in fact, an infinite amount—exist. . . . Gender-inclusive housing means that students from all gender identities and expressions may choose to live together." The fact that students of all gender identities can live together, and that GIH is not *only* for trans students, normalizes varieties of gender expression and breaks down the degree to which the gender binary is reinforced in student housing.

Boston University decided in 2012 to end its gender-neutral housing initiative. In conjunction with its student government body, the Center for Gender, Sexuality, and Activism formed the lobby group "Gender Neutral BU." Mirroring student activism of the 1960s, students marched to the president's office to present him with a petition containing 2,300 student signatures, requesting that gender-neutral housing be reinstated. In another move echoing student activism of the 1960s, the dean of students warned that if students did not evacuate the premises, they would be arrested and suspended from the university. These threats were not idle: While exiting the building, student activists passed police officers armed with batons and zip-tie handcuffs. One year later, Boston University introduced gender-neutral housing, with strong input from student government and the LGBTQIA student organization.

At the University of North Florida (n.d.), gender-inclusive housing has expanded into a living learning community. Named in honor of the Stonewall Riots that kicked off the "gay liberation movement," the Stonewall LLC "celebrate[s] and affirm[s] the cultural experiences of gender expansiveness while welcoming the diverse and complex identities of every resident." In addition to creating "an intentional, diverse living community where all gender identities and expressions are included and affirmed," residents create "sustainable, repeatable programming and curriculum around gender diversity and social justice." Charlie Cantley, a nonbinary student majoring in sociology and anthropology applied only to UNF and enrolled at UNF *because* of this housing option. According to Charlie, "I wanted live in a place where I would not only be safe but also respected and affirmed." Now in their third year, Charlie says they "can't fully articulate the impact that living in GIH had on my life" but that "living in the LLC helped me gain confidence in who I was and get comfortable as a new student at UNF. My roommates became some of my best friends: They are the core of both my college family and my household, [and] have helped me grow as a person and succeed as a student. They have helped make UNF my home." In a context where trans students face mental health pressures and other risk factors that increase their rates of attrition, experiences like Charlie's affirm the fundamental value of gender-inclusive housing.

Beyond campus housing, counseling centers have begun hiring personnel to help students with issues related to sexual orientation and gender identity. More frequently, intake forms at the counseling center and elsewhere on campus do not require students

to identify as male or female. Students themselves have also pushed to be able to change their names on course rosters or course management sites, so that instructors only know them by their chosen name and not their dead name (the name they were assigned at birth). These examples show that many institutions within the United States are currently changing how they recognize and organize gender differences and that these efforts have come about through the activism of students seeking to change the climate of their campuses.

### Traveling Back in Time

The notion that gender is socially constructed can also be illustrated by looking at historical variations in gender role expectations. Our time machine awaits!

Entering our time machine, where would we go to find the most gender **egalitarian** society? An egalitarian society is one characterized by relative equality among groups or individuals. Would we go to modern Scandinavian societies, some of which have quotas for women in parliament? In fact, we would go way, way back in time. The greatest evidence of gender equality is found in **hunter-gatherer societies**. Up until about 10,000 years ago, all humans lived in hunter-gatherer societies—ones where humans survive by hunting (or scavenging) animals and gathering plants and seeds. In such societies, both men and women hunted—with men typically hunting larger animals—and both gathered plant-based foods; women typically gathered more of the daily food intake, though, because men were more focused on hunting. Because both men and women made significant caloric contributions to their group, and because no one was able to gather a surplus (they merely subsisted), men and women were interdependent with little opportunity to develop a social advantage (Dahlberg 1975; Dyble et al. 2015; Konner 2015; Lee and Devore 1968).

The notion that men and women were relatively equal in hunter-gatherer societies may come as a surprise. The essentialist perspective and evolutionary psychology, after all, suggest that men are naturally dominant and that their muscular and testosterone-fueled bodies engineer them to provide and protect. This story has been used to explain *and* justify men's social dominance: It's hardwired into their hard bodies! Yet anthropologists Donna Hart and Robert Sussman (2005) found that early humans (way before the hunters and gatherers) did not eat much meat and that their teeth were better adapted to a diet of fruit and nuts. As such, women's food gathering was central to survival. Rather than hang out at home and protect vulnerable offspring, women typically strapped their babies on and went out to forage for food. Examples like this help us gain a more accurate idea of what is "natural" when it comes to gender.

Another hypothesis that can be tested through time travel is the notion that women are naturally nurturing. Imagine you are a social scientist trained in the 21st century and want to know what it means to be a woman throughout American history. To begin, we time-travel to Massachusetts Bay Colony, circa 1675. Settled by the English beginning in 1620, the Massachusetts Bay Colony began as a trading base in the "New World" but

quickly evolved into a home for Puritans seeking religious freedom. If we did a study of gender roles in early America, we would discover that women were not generally thought of as delicate, emotional, nurturing creatures.

To understand this, it is necessary to explain the role of children in society. Historians Steven Mintz and Susan Kellogg (1989) show that conceptions of motherhood and femininity cannot be understood apart from conceptions of childhood, and that both must be understood in relation to society as a whole. Because humans had little control over their fertility, children in the 17th century arrived whether they were planned or not. Further, the lack of medical know-how meant that 10% to 30% of children died in infancy. People quickly learned that infant lives are precarious. In addition, children at this time were viewed more as an economic than emotional asset. Children helped sustain the family's economic well-being—helping raise younger siblings and allowing Mom to do more complex tasks, like work in the garden, manage livestock, wash, or cook. Because it took so much work to sustain a family, children were rarely doted on, read to, or played with. Colonial-era religious views also impacted perceptions of children. Rather than regarding children as innocent creatures in need of love and nurturing, Puritanical beliefs (rooted in conservative Protestantism) framed children as willful and stubborn and filled with “original sin.”

Given these views on children, it would have been almost impossible for women to be viewed as caretakers. The belief that women are naturally nurturing is a socially construction: Just because they give birth does not automatically make them doting mothers. This example also shows how macro-level factors influence the social construction of gender. In this case, limited medical technology and the precariousness of infancy impact how children and women are viewed. Further, the level of economic development (everyone works) impacts how children and women are viewed. Finally, religious ideas impact how children are viewed (evil). These role expectations changed during the Industrial Revolution of the mid-1800s, when more men began working in factories and offices, which allowed women to stay at home. The growth of factories also allowed women some “time saving” conveniences in the form of premade foods and clothing. Because they no longer had to work so hard, and because middle-class children were also freed from work, they became emotional assets, rather than economic assets. Together, these structural changes gave rise to the idea that women are inherently nurturing.

As our time machine returns us to the present, we must take our lessons with us. The main lesson is that social constructions of masculinity and femininity come from the macro level—the economy, technology, medicine, religion, media, education, and so forth. These conditions are mutually reinforcing, so that as conditions at the macro level change, so do gender role expectations (and vice versa). Were we to chart gender role changes over the last 200 years, we would see this pattern time and again. Whether in terms of the Victorian-era male “dandy,” the 1920s flapper, Rosie the Riveter, or the sensitive male of the 1970s, our travels would show that gender role changes are a reflection of changes in the broader social context.

## Exploring Intersectionality: Race and Gender

In 1851, when Sojourner Truth provocatively asked, “Ain’t I a woman?” she provided sociologists one of the first examples of “intersectional” thinking. The concept of **intersectionality** refers to the notion that it is insufficient to focus only on differences between women and men without paying attention to how other identities “intersect” with gender. While men and women may exhibit some differences between them, there are also profound differences in the experiences of women of different racial and ethnic groups. We must examine, therefore, the intersection of race and gender, looking at how together these identities produce their own unique social location. It was this notion that early antislavery icon Sojourner Truth hinted at in her 1851 speech to the Women’s Convention in Akron, Ohio.

During the 1800s, the dominant image of women in the United States was of delicate, frail creatures, ones who needed protection by men and society alike. The notion that women were frail, delicate creatures fed the dominant social and political ideology that excluded them from the workplace, voting, and education, keeping them ensconced in domestic duties. Yet Sojourner Truth detected a troubling contradiction: The same rhetoric that provided white women with chivalrous treatment and protected them from difficult work did not apply to Black women. Instead, like the immigrant women from Ireland, Italy,

and Poland who would soon arrive on these shores, Black women toiled in fields and factories and were routinely denied the dignity given to middle-class white women.



**PHOTO 2.5**  
Sojourner Truth raised questions about the intersection of gender and race.

*That man over there says that women need to be helped into carriages, and lifted over ditches, and to have the best place everywhere. Nobody ever helps me into carriages, or over mud-puddles, or gives me any best place! And ain't I a woman? Look at me! Look at my arm! I have ploughed and planted, and gathered into barns, and no man could head me! And ain't I a woman? I could work as much and eat as much as a man—when I could get it—and bear the lash as well! And ain't I a woman? I have borne thirteen children, and seen most all sold off to slavery,*

iStockphoto.com/KenWiedemann

*and when I cried out with my mother's grief, none but Jesus heard me! And ain't I a woman?* —Sojourner Truth (National Park Service 2017)

Sojourner Truth's speech represented both a condemnation of slavery—a system that provided no protection to allegedly frail women—and an indictment of patriarchal gender roles, in that women may not actually need such protection. Today, her speech reminds us how complicated gender is. Even within the same era and social context, gender may be constructed differently depending on how it intersects with race, social class, and other sociologically relevant social identities.

## WHAT DOES IT ALL MEAN? A SOCIOLOGICAL CONCLUSION TO THE QUESTION OF GENDER

In 2012, Caster Semenya carried the flag for her native South Africa in the opening ceremony of the Olympic Games in Rio. Seven years later, in 2019, she took a break from her career in track and field and began playing professional soccer. Semenya's break from track and field may last longer than initially planned, for in the summer of 2020, she lost her appeal in the Swiss courts, who affirmed the position that athletes like Semenya would have to take drugs to suppress their testosterone production if they wish to compete in sprint races. Alternately praised as a national hero and treated as a freakish specimen, Semenya told the BBC that her 10-year struggle had “destroyed” her “mentally and physically” (“Caster Semenya” 2019). A woman's athletic career and psychological well-being were sacrificed by a society that insists on the sex–gender binary and continues to search for a line—one separating men and women—that just isn't there.

The case reveals a central theme of this chapter: that sex and gender are socially constructed. Even when it comes to sex, something that should be simple and biologically verifiable, humans are *still* looking for ways to determine how many sexes there are and what determines a person's sex. There is, as it turns out, no single marker for sex. Instead, understandings of sex shift and lines get redrawn as the broader social environment—including the state of scientific knowledge, the political climate, and gender relations—changes.

With respect to the nature vs. nurture debate, we conclude this chapter by clarifying where sociologists stand. Ultimately, sociologists give some credence to the nature side of the debate: Most sociologists *do* believe that biological differences between males and females establish a foundation for our social behaviors and account for some of the social differences between men and women. Ultimately, though, sociologists reject the notion that biology is destiny. While biology may provide us with some predispositions and capacities, it does not *make* us act a certain way.

One final example may clarify the sociological position: height differences between men and women. Scientists know that males have a genetic predisposition to be taller and more muscular than females. Sociologists and anthropologists accept this assertion but note that social practices *amplify* many underlying biological differences (Kuzawa 2007).

Across the globe, male children are considered more valuable than female children. Male children bring prestige and greater ability to support the family financially. Because of this, boys receive more of a family's nutritional resources; they are fed more. In turn, they are more likely to survive, make favorable partnerships, and thrive. They end up taller due to both biological predispositions *and* social practices. In turn, these social practices reinforce the notion that men are bigger and stronger than women and that they are more beneficial for a family's well-being.

Finally, this chapter shows just how creative and flexible humans are. It is humans who define what it means to be a man and a woman—as well as what it means to be male or female. These definitions are not automatic; they are not a given. With respect to sex, the sociological perspective shows how humans take something so incredibly complicated—the myriad factors that make us male and female—and transform it into a simple binary. With respect to gender, definitions of *man* and *woman* do not emerge from thin air. Rather, humans give meaning to masculinity and femininity, and make sense of gender differences, within the broader social environment. The macro level provides the setting in which these meanings get made. This chapter shows that economic conditions, technology, medicine, and religious beliefs all play a part in defining gender. What we know, then, is that definitions of gender and the expectations we have of men and women will continue to evolve as social conditions evolve.

## REVIEW OF KEY POINTS

- Sex refers to a biological category, while *gender* refers to a social category.
- Sex and gender can be considered categorical identities (usually binary identities) *or* as identities that exist along a continuum.
- Intersex and transgender identities encourage us to think about sex and gender in more complicated ways.
- Females generally experience more freedom and flexibility than males in navigating the gender continuum. This tells us something about the power and privilege associated with masculinity.
- The essentialist perspective—which sociologists typically critique—sees gender differences as rooted in underlying biological differences. The essentialist perspective has also been used to justify inequality.
- The social constructionist perspective—which is embraced by sociologists—sees gender differences as historically and cross-culturally variable. Gender differences are largely created and reinforced by humans, through socialization and the social structure.
- While most human societies have been male-dominated and male-centered, hunter-gatherer societies and matriarchal societies show variations in how gender can be organized.
- An intersectional perspective shows that gender cannot be understood as an isolated identity; instead, it intersects with race, social class, and other identities.

## QUESTIONS FOR REVIEW

1. What is sex? How can sex be viewed as both a binary and as something that exists along a continuum?
2. What is gender? How can gender be viewed as both a binary and as something that exists along a continuum?
3. How does the essentialist perspective explain social differences like gender? What kind of evidence do they use to make their case?
4. What is the sociological response to the essentialist perspective? How do they critique the essentialist perspective?
5. How does the social constructionist perspective explain social differences like gender? What kind of evidence does it use to make its case?
6. What are your thoughts on the essentialist and social constructionist perspectives? Do you favor one over the other?
7. As gender roles and expectations continue to evolve, do you think that social changes or biological changes play a bigger role? Thinking more specifically about transgender people, do you think that the essentialist perspective, which emphasizes biology, or the social constructionist perspective, which emphasizes social factors, will have more to say about how and why transgender people have become more visible in the 21st century?

## KEY WORDS

- |   |                              |
|---|------------------------------|
| androgyny 31                            | intersexuality 25            |
| bacha posh 44                           | matriarchy 43                |
| Bem Gender Role Inventory (BGRI) 31     | matrilineal 43               |
| binary 24                               | nature vs. nurture debate 34 |
| biosocial model of status 39            | neurosexism 36               |
| continuum 25                            | patriarchy 42                |
| differences of sex development (DSD) 25 | sex 24                       |
| egalitarian 48                          | sex reassignment surgery 28  |
| gender 30                               | sworn virgin 43              |
| gender-similarities hypothesis 33       | third gender 44              |
| hunter-gatherer societies 48            | transgender 46               |
| intersectionality 50                    |                              |

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