

Distinguishing Between *Sex* and *Gender*: History, Current Conceptualizations, and Implications

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Abstract Many psychologists, particularly feminist psychologists, have drawn a distinction between the term *sex* and the term *gender*. The purposes of this paper were to review the history of this distinction and to illustrate the varied and inconsistent ways in which these terms are used. Historically, this distinction began with John Money and his colleagues in the 1950s (Money et al. 1955a, b, 1957); they used the term *sex* to refer to individuals' physical characteristics and the term *gender* to refer to individuals' psychological characteristics and behavior. Two decades later, Rhoda Unger (1979) argued that the widespread use of the term *sex* implies biological causes and promotes the idea that differences between women and men are natural and immutable. She proposed the use of the term *gender* to refer to traits that are culturally assumed to be appropriate for women and men. Her work was influential in prompting a widespread shift from the use of the term *sex* to the use of the term *gender* in psychological texts. Nevertheless, current definitions of *sex* and *gender* vary widely. Some authors use the terms interchangeably. Of those who distinguish between the terms, most construe *gender* as more related to cultural influences and *sex* as more related to biology. There are numerous inconsistencies in authors' definitions, however. Additionally, in some cases, there

appears to be a mismatch between how researchers define *sex* or *gender* and how they measure it. It seems likely that the distinction between the term *sex* and the term *gender* may become less meaningful and important over time.

Keywords Sex · Gender · Terminology · History · Feminism

Introduction

Several years ago, one of us (the first author) was on a student's dissertation committee at her final defense. She had compared women and men on a measure of hope, and she had referred to the results as a "sex difference." One committee member objected, saying that she had not measured the participants' sex: "Did you ask them about their chromosomes? Did you ask them about their genitals?," he asked. The student had not. "Then you should say *gender difference*, not *sex difference*," the committee member said.

But another committee member objected to that suggestion: "Did you assess their masculinity and femininity? Did you give them the Bem Sex Role Inventory?," he asked. The student had not. "Then you should say *sex difference*, not *gender difference*."

The student had asked participants to complete a questionnaire about their levels of hope in different situations, she had asked if they were female or male, and *p* was less than .05 (Sympson 1999). Was this a *sex difference* or a *gender difference*?

This question has been raised even about the title of the journal *Sex Roles*. For example, Etaugh and Bridges (2010) wrote, "*Sex Roles* is even the name of a highly respected journal. Yet many psychologists believe that the term *gender roles* is more appropriate to describe the concept of culturally

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assigned roles” (p. 2). Matlin (2008) wrote, “A highly regarded scholarly journal is called *Sex Roles*, although a more appropriate title would be *Gender Roles*” (p. 4). Donelson (1999) wrote, “The journal *Sex Roles* really deals with gender roles” (p. 13). (For more information on the history of the journal and its title, see Chrisler 2007, 2010.)

As we commemorate the 35th anniversary of the journal *Sex Roles*, it is a good time to think about the terms *sex* and *gender*. Is there a consensus about when to use the term *sex* and when to use the term *gender*? In this paper, we review how these terms have been used historically in psychology and related fields. We then illustrate how these terms are currently used and defined. We discuss the implications of using and defining these terms in various ways, and we review authors’ recommendations.

A Brief History of the Terms *Sex* and *Gender* in Psychology

The first purpose of this paper was to investigate how psychologists and other social scientists have used these terms historically. Toward this end, we searched PsycINFO for entries that included the words *sex* or *gender*. We restricted our search to articles and books written in English in which the word *sex* or *gender* appeared in the title or abstract.

For the term *sex*, our search yielded 6,756 results during or before 1960. In the earliest entries, the term was used in two contexts. Sometimes *sex* was used to refer to males and females, as in the following example: “The gentle and insinuating manners of the female sex tend to soften the roughness of the other sex” (Kames 1774, p. 169). Other times it was used to refer to sexual appetites, as in this example: “Our appetites are three in number, hunger, thirst, and the appetite of sex” (Stewart 1828, p. 23).

For the term *gender*, our search yielded 32 results during or before 1960. Several of these results were false positives, however. That is, in some instances the word *gender* appeared in the PsycINFO abstracts but not in the actual texts. Sometimes this fact was clear in PsycINFO because the abstracts were labeled as “Created by APA,” but other times the newly created abstracts were unlabeled. For example, the PsycINFO entries for Sumner (1898) and Pressey (1918) included abstracts mentioning *gender*, but accessing the actual papers revealed that neither included an abstract, and neither included the word *gender* anywhere in the paper. Thus, the word *gender* in these PsycINFO entries reflected a more current use of the term.

Among some early entries in which the term *gender* actually appeared, it had been used to refer to grammatical or linguistic gender (e.g., Kantor 1936; Tylor 1871). Kantor commented, “With respect to gender the linguist has clearly

demonstrated a progressive development. No longer does he regard gender as a phenomenon of sex reference, but rather a sheer matter of classification” (p. 207). Even an article with the intriguing title “The Personifying Passion in Youth, with Remarks upon the Sex and Gender Problem” (Leuba 1900) related to grammatical gender.

In other early texts, *gender* was used to refer to sexuality between males and females. For example, in the table of contents, Fowler (1875) listed the title of Part I as “Gender, or Sexuality” (p. iv); the theme of that section was sexuality and procreation. He wrote that “gender is to marriage and offspring what seed and soil are to crops” (p. 50) and that “gender alone must originate all this infinitude of all earth’s products” (p. 51).

The first entries in PsycINFO that distinguished between an individual’s *sex* and *gender* were articles by John Money and his colleagues, Joan Hampson and John Hampson (Money et al. 1955a, b, 1957). Their use of these terms is similar to the use of these terms in the contemporary psychological literature.

John Money and His Colleagues

John Money and his colleagues (Money and Ehrhardt 1972; Money et al. 1955a, b, 1957) conducted pioneering research on individuals whose biological sex was ambiguous—individuals whom Money et al. called *hermaphrodites* and who today might be called *intersexed* (see Topp 2010, for a discussion of recent controversies about the term *intersexed*). Money and his colleagues distinguished among individuals’ (a) anatomical and physiological makeup—“chromosomal sex, gonadal sex, hormonal sex, internal reproductive organs, and external genitalia”; (b) childhood socialization—“sex of assignment and rearing”; and (c) psychological characteristics—“gender role and orientation” (Money et al. 1955a, p. 319). They defined *gender role* as

all those things that a person says or does to disclose himself or herself as having the status of boy or man, girl or woman, respectively. It includes, but is not restricted to sexuality in the sense of eroticism. Gender role is appraised in relation to the following: general mannerisms, deportment and demeanor; play preferences and recreational interests; spontaneous topics of talk in unprompted conversation and casual comment; content of dreams, daydreams and fantasies; replies to oblique inquiries and projective tests; evidence of erotic practices and, finally, the person’s own replies to direct inquiry. (p. 302)

Later, in their landmark book, Money and Ehrhardt (1972) defined *gender identity* as “the private experience of gender role” and *gender role* as “the public expression of gender identity” (p. 4). Note that Money and his colleagues

used the word *sex* to refer to individuals' physical characteristics (e.g., chromosomal sex, gonadal sex, hormonal sex) and to refer to sex assignment and rearing. They used the word *gender* (e.g., gender identity, gender role) to refer to individuals' psychological characteristics and behavior. They introduced the concept of gender as distinct from sex, but they used the term in phrases such as *gender role* and *gender identity* rather than alone.

These distinctions had important implications for how people thought about individuals' biology and their subsequent psychological characteristics and behavior. In Money's obituary, Ehrhardt (2007) summarized his contributions as follows:

From the middle 1950s on, John Money argued his well-known theory that sex is dependent on many variables rather than on one overriding marker such as, for instance, the chromosomes, and that postnatal variables are as important as those prenatal factors that enact the chain of events of a person's sexual differentiation. John Money introduced the terms "gender identity" and "gender role" as concepts liberated from biological determinism of sex on the one hand and separate from sexual functioning on the other. (Ehrhardt 2007, p. 223)

Other researchers have also commented on the importance of distinguishing between sex and gender. For example, Crawford (2006) wrote,

The sex/gender distinction was important because it enabled psychologists to separate conceptually the social aspects of gender from the biology of sex, and opened the ways to scientific study of such topics as how children are socialized to conform to their society's gender rules. Distinguishing sex from gender was a very important step in recognizing that biology is not destiny—that many of the apparent differences between women and men might be societally imposed rather than natural or inevitable. (p. 26)

Subsequently, Money has been criticized for his role in the famous "John/Joan" case (Colapinto 2000; Diamond and Sigmundson 1997). Briefly, when "John" was a baby, his penis was destroyed in a circumcision accident (Money and Ehrhardt 1972). A plastic surgeon recommended sex reassignment surgery and rearing as a girl (i.e., as "Joan"). Money and his team advised the parents that "their child can be expected to differentiate a female gender identity, in agreement with her sex of rearing" (Money and Ehrhardt 1972, p. 119). This prediction was based on findings by Money et al. (1955a, b, 1957) that for almost all of the hermaphrodites they studied, the individuals' gender role was best predicted by their sex of

assignment and rearing—not their chromosomal sex, gonadal sex, hormonal sex, or internal or external sex organs. According to Money and Ehrhardt (1972), the child's mother reported that the child was adjusting successfully as a girl.

The family eventually stopped their visits to Money, and no more follow-ups were reported until Diamond and his colleagues reported on their own attempts to follow up on the case (Diamond 1982; Diamond and Sigmundson 1997). They found that after a troubled adolescence, "Joan" had resumed living as a man and had taken the name "David Reimer." In providing a long-term follow-up, Diamond and his colleagues made a valuable contribution to the field. It is unclear whether Money knew or should have known that the child was not adjusting successfully as a girl. It is clear, however, that Money and his colleagues made a valuable contribution to the field by distinguishing between biological structures such as sex chromosomes and psychological concepts such as gender identity.

Gayle Rubin

Anthropologist Gayle Rubin (1975) was also an early proponent of a theoretical distinction between sex and gender. She described what she called the "sex/gender system" (p. 159). In this system, she construed sex as the biological body into which one is born (i.e., one's maleness or femaleness). She construed gender as the social role division that is imposed on the sexes. In other words, biological sex is the foundation on which gender is socially constructed: "Gender is a socially imposed division of the sexes" (p. 179).

According to Rubin (1975), society's division of labor by sex is "a taboo which exacerbates the biological differences between the sexes and thereby *creates* gender" (p. 178, emphasis in the original). From Rubin's perspective, sex is biological, and some biologically determined sex differences and similarities do exist. However, society's gendered division of labor forces men and women to suppress many of their biological similarities:

Far from being an expression of natural differences, exclusive gender identity is the suppression of natural similarities. It requires repression: in men, of whatever is the local version of "feminine" traits; in women, of the local definition of "masculine" traits. The division of the sexes has the effect of repressing some of the personality characteristics of virtually everyone, men and women. (p. 180)

Rubin suggested that this social pressure to conform to expected divisions of labor is unrelated to any actual biological necessity (e.g., women are biologically

capable of hunting, and men are biologically capable of childcare). Rather, gendered divisions of labor function to ensure the economic necessity of heterosexual marriage. If taboos prevent men and women from performing certain gendered social roles, then men and women will become economically dependent on each other. Thus, gender functions to maintain “obligatory heterosexuality” (p. 183).

Rhoda Unger

Rhoda Unger was instrumental in advocating for the use of the term *gender* in psychological research. In a 1979 *American Psychologist* article, Unger argued for distinguishing between sex and gender. She argued that “a major problem in this area appears to be the too inclusive use of the term *sex*” (p. 1085), which could be used to describe individuals’ chromosomes, reproductive organs, secondary characteristics, psychological characteristics, and—when used in the term *sex roles*—behaviors considered appropriate for males and females. She argued that, despite this broad usage, the term *sex* connotes that any sex differences result from biology and are thus inevitable:

The term *sex* implies biological mechanisms. Differences between females and males that are merely descriptive are frequently assumed to have biological origins. The present terminology facilitates biologically determinist models of sex differences which make it less likely that environmental sources of such differences will be explored. (p. 1085)

Unger (1979) observed that *sex* has been used as both (a) an individual-difference or subject variable, located within the individuals being studied (which we will call “actual sex differences”) and (b) a stimulus variable, such that observers make assumptions about individuals simply by perceiving them to be male or female (which we will call “assumptions about sex differences”). Using one term to represent two different meanings can lead to inaccurate conclusions: “In many of the areas in which hypothesized subject sex differences have not been substantiated by empirical research, stimulus sex differences have been found” (p. 1086). In other words, individuals’ assumptions about sex differences often do not match actual sex differences (see Hyde 2010, for examples).

To clarify this distinction and to lessen the chance that researchers and others would confuse assumptions about sex differences with actual sex differences, Unger (1979) proposed that the term *gender* be used to refer to assumptions about sex differences—“those characteristics and traits socioculturally considered appropriate to males

and females” (p. 1085). “*Gender* may be used for those traits for which sex acts as a stimulus variable, independently of whether those traits have their origin within the subject or not” (p. 1086). She argued that such a practice would have positive implications: “The use of the term *gender* makes it less likely that psychological differences between males and females will be considered explicable mainly in terms of physiological differences between them” (p. 1093).

Unger (1979) also proposed the following meaning for the term *gender identity*:

Gender may be broadened to include both attributions made by others and assumptions and suppositions about one's own properties (gender identity). ... Gender identity refers to those characteristics an individual develops and internalizes in response to the stimulus functions of biological sex. As such, gender identity may be a more important predictor of behavior than is biological sex. (p. 1086)

Importantly, Unger (1979) did not make any assumptions about the origins of sex differences or gender differences: “These terms, however, do not imply that we have any information on the origin of gender-characteristic effects. It is likely, in fact, that a number of factors—physiological, biosocial, and environmental—contribute to differences between females and males” (p. 1093).

A Shift From *Sex* to *Gender*

Since the publication of Unger’s (1979) recommendations, many psychologists have adopted the term *gender* rather than *sex* when referring to issues related to women and men. For example, Basow (2010) described changes from 1975 to 2010 in psychology textbooks about women or the differences between women and men:

While early texts often focused on internal causes of gendered behavior, later ones increasingly emphasized the importance of social factors. This was reflected in the shift from using “sex” to using “gender” to refer to comparisons between men and women. Due to Unger’s influential 1979 article, the term *sex* was mainly used to refer to biological distinctions, while *gender* referred to the social meaning of the biological distinction. (p. 152)

Basow noted that in several psychology of women textbooks, the term *sex* in the title of the first edition was replaced by the term *gender* in later editions.

Glasser and Smith (2008) investigated the use of the terms *sex* and *gender* from 1990 to 2005 in the *Journal of Research in Science Teaching (JRST)*. They identified 104 articles that focused on sex, gender, or both. Of these, only

12 used the term *sex* exclusively; these tended to be the older articles. About one third (36) of the articles used both terms, often interchangeably. Slightly more than half (56) used the term *gender* exclusively. Glasser and Smith attributed this shift at least partly to the guidelines published in the fourth edition of the publication manual of the American Psychological Association (APA). Those guidelines suggested (a) that *gender* is cultural and refers to social groups, which applies to most psychological research, and (b) that *sex* can be ambiguous, confused with sexual behavior; the term *gender* eliminates this confusion.

Our PsycINFO search also revealed a shift from *sex* to *gender*. We conducted a search for entries written in English that included the terms *sex* or *gender* in their titles or abstracts. Our search was conducted on September 18, 2010; it yielded entries from 1675 through 2011 [sic]. We found 101,034 entries for *sex* and 96,760 entries for *gender*, a sex-to-gender ratio of 1.04; that is, the two terms had been used almost equally often. However, in the entries before or during 1960, we found 6,756 entries for *sex* and only 32 for *gender*, a sex-to-gender ratio of 211.13. In the entries for 2000–2011, we found 38,311 entries for *sex* and 61,816 for *gender*, a sex-to-gender ratio of 0.62. Thus, before and during 1960, *sex* was used over 200 times more often than *gender*; in the years since 2000, *gender* was actually used more often than *sex*. (See Haig, 2004, for a quantitative analysis of changes in the frequency of these terms from 1965 to 2001 in the science, social science, and arts and humanities literatures.)

Current Conceptualizations of Sex and Gender

The second purpose of this paper was to illustrate how the terms *sex* and *gender* are conceptualized currently. To investigate this, we reviewed numerous books and articles by psychologists and by sociologists writing from a social psychological perspective. Our aim was to provide examples of current thinking about these terms; we do not claim that we reviewed all—or even a random sample of all—current texts. Our examples came from two sources: One source was commonly-used psychology of women textbooks published in the U.S. In these textbooks, authors typically included a section on the distinctions between sex and gender. The other source was articles dealing specifically with the issue of distinguishing sex from gender. Most, but not all, of these articles were from journals published in the U.S.

Different authors took different approaches to these definitions. Some took a *descriptive* approach, explaining how other authors use these terms. Others offered their own definitions, stating their preferences for defining these terms or explaining how they used these terms, but not

suggesting that some definitions were correct and others incorrect. Still others took a more *prescriptive* approach, explaining how these terms *should* be defined or commenting on the correct and incorrect use of these terms.

Our task was complicated for several reasons: First, as was clear from our PsycINFO searches, these terms have been used in thousands of articles and books. It would have been impossible to read them all.

Second, some authors used these terms but did not define them. Some defined one of the terms but not the other. Some offered only vague definitions (Glasser and Smith 2008, cited examples of these). Some offered multiple definitions or used the terms in multiple ways. Some did not define *sex* and *gender* per se, but instead defined related concepts, such as *sex differences*, *gender differences*, *sex roles*, *gender roles*, or *gender identity*.

Third, this task was difficult because sometimes understanding authors' definitions of *sex* and *gender* required knowing how they defined other terms. For example, many authors used the terms *female* and *male* to refer to sex, which they associated with biological factors, and used the terms *women* and *men* to refer to gender, which they associated with social or cultural factors. In fact, Glasser and Smith (2008) associated the terms *male* and *female* with the term *sex* so strongly that they cited examples in which individuals were asked to “indicate their ‘gender’ by selecting ‘male’ or ‘female’” as “a direct indication of synonymous use” (p. 344) of the terms *sex* and *gender*—despite the fact that the authors they cited had not used the term *sex*. So, if an author used the terms *female* and *male*, could we assume that they were referring to sex and to biological influences? Not necessarily, because other authors used the terms *female* and *male* when referring to gender, as in this example: “Gender ... refers to the social categories of male and female” (Helgeson 2005, p. 3). Thus, when classifying definitions, it was not clear what, if anything, we should infer from authors' use of words like *females* and *males* or *women* or *men*.

Fourth, our initial plan was to classify authors' definitions into several categories based on how they construed the relationship between sex and gender. For example, did they view sex and gender as opposites, such as construing *sex* as male–female differences resulting from biology and *gender* as male–female differences resulting from culture? Did they regard sex and gender as a complementary pair, such as construing *sex* as the biological foundation on which society constructs *gender*? It soon became clear that it was not feasible to identify a limited number of categories based on how authors construed the relationship between sex and gender. As mentioned above, some authors did not clearly define both terms. Even for authors who did define both terms, sometimes their definitions were neither opposites nor complementary pairs. Sometimes it was not

clear how their definitions of *sex* and *gender* related to each other. Sometimes two authors used similar definitions of *sex* but different definitions of *gender*. Because of this, when we review definitions below, we discuss definitions of *sex* separately from definitions of *gender*.

So, with these caveats in mind, below we present examples of some of the ways in which *sex* and *gender* are currently used in the psychological literature. When feasible, we quoted from these texts rather than paraphrasing to allow readers to see exactly how different authors used these terms.

Sex and Gender: Used Interchangeably

Some authors used the terms interchangeably (an observation also noted by Etaugh and Bridges 2010; Glasser and Smith 2008; Pryzgodna and Chrisler 2000). Glasser and Smith (2008) found that about one third of the articles they reviewed used both terms, often synonymously; for example, some authors wrote that the variable “sex” represented the “gender” of the participants. Pryzgodna and Chrisler (2000) cited articles that referred to *gender* in the title but that referred only to *sex differences* in the paper.

Glasser and Smith (2008) discussed the problems with using these terms interchangeably. They argued that “clarity in social science is not served either by the synonymous use of two or more terms for the same construct or by the use of two terms that are closely related without careful specification of their relationship” (p. 344).

In contrast, a few authors have suggested that it might be useful for feminist psychologists “to let go of the presumed distinction between sex and gender” (Yoder 2003, p. 17). We will return to this issue later in the paper.

Definitions of *Sex*

Sex: Reserved for Sexual Behavior

Some authors chose to reserve the word *sex* to refer to sexual behaviors and feelings. For example, Hyde (2007) discussed the ambiguity of the word *sex*: “Sometimes it is used to refer to sexual behaviors such as sexual intercourse, whereas at other times it is used to refer to males and females. ... To reduce this ambiguity, I am going to use the term *sex* to refer to sexual behaviors and the term **gender** to refer to males and females” (p. 5).

The current edition of the *Publication Manual of the American Psychological Association* (APA 2010) also mentions possible confusion: “Note that the word *sex* can be confused with *sexual behavior*. Gender helps keep meaning unambiguous” (p. 71). It does not recommend restricting the use of the word *sex* to sexual behavior, however.

Sex: Chromosomes, Hormones, and Reproductive Anatomy

Some authors defined *sex* as the physical characteristics that differ in males and females, such as chromosomes, hormones, and reproductive anatomy. Although these authors presented definitions referring to anatomy, they also used *sex* to refer to the categories *female* and *male*. For example,

- Rider (2005) wrote that *sex* “refers to biological or physiological aspects of maleness or femaleness. Thus, a sex difference would be the anatomically different reproductive systems of males and females” (p. 21). In a side note, she defined *sex* as “biological or physiological structures that are male or female, such as genitals or gonads” (p. 21).
- Lorber and Moore (2007) defined *sex* as “biological criteria for classification as female or male: chromosomes (XX for female, XY for male), hormones (estrogen for female, testosterone for male), genitalia (clitoris, vagina, and uterus for female, penis and scrotum for male), procreative organs (ovaries and uterus for female, testes for male)” (p. 5).
- Matlin (2008) defined *sex* as “a relatively narrow term that typically refers only to those inborn biological characteristics relating to reproduction, such as *sex chromosomes* or *sex organs*” (pp. 3–4, emphasis in the original).

Sex: Categories Based on Chromosomes, Hormones, and Reproductive Anatomy

Other authors defined *sex* as *categories* based on chromosomes, hormones, and reproductive anatomy. For example,

- Wood (1999) wrote that “Sex is a designation based on biology, while gender is socially and psychologically constructed. ... **Sex** is classified by biological characteristics. Our society uses genetic and biological qualities to define whether a person is male or female” (p. 20).
- Rosenblum and Travis (2003) wrote that “*sex* refers to females and males—that is, to chromosomal, hormonal, anatomical, and physiological differences” (p. 23).
- Helgeson (2005) defined *sex* as “the biological categories of male and female, categories distinguished by genes, chromosomes, and hormones” (p. 3).
- Lips (2008) wrote that in her book, “*sex* is reserved for discussions of anatomy and the classification of individuals based on their anatomical category” (p. 6).
- Etaugh and Bridges (2010) defined *sex* as “the classification of individuals as female or male based on their genetic makeup, anatomy, and reproductive functions” (p. 2).

The APA (2010) publication manual’s comments about the term *sex* seem to fit here. It says that—in contrast to *gender*, which “is cultural and is the term to use when referring to

women and men as social groups” (p. 71)—*sex* “is biological; use it when the biological distinction is predominant” (p. 71).

Etaugh and Bridges (2010) problematized this issue by writing that “these definitions may be too simple: Recent research on intersexed individuals has led to the suggestion that there are more than two sexes” (p. 2). Similarly, Denmark et al. (2005) mentioned recent controversies about the number of sexes that exist:

Sex, very simply, refers to the biological differences in the genetic composition and reproductive structures and functions of men and women. Two biological sexes exist in mammals and in many nonmammalian species, although recent controversies question the actual number of biological sexes that exist. (p. 3)

Both Etaugh and Bridges (2010) and Denmark et al. (2005) seemed to reify these categories, treating them as existing in nature, separate from culture. Etaugh and Bridges referred to how many sexes “there are” (p. 2), and Denmark et al. referred to the “actual number of biological sexes that exist” (p. 3). This wording implies that, although there are questions about the number of categories that exist, more research might resolve this issue.

In contrast, Rosenblum and Travis (2003) emphasized the social construction of these categories; that is, they emphasized the social processes involved in categorizing individuals as male or female. As quoted above, they began by writing that “*sex* refers to females and males—that is, to chromosomal, hormonal, anatomical, and physiological differences” (p. 23). To this point, their definition was similar to the others. However, they then added, “Indeed, even *sex* can be understood as a *socially created dichotomy* much like race, sexual orientation, or gender, although that approach can be unsettling” (p. 23, emphasis added). They then gave the example of an athlete who participated in the World University Games who was anatomically female but chromosomally male and who was classified as a male one year and as a female another year when the governing body started using physical inspection rather than genetic testing.

Sex: Traits and Characteristics Resulting from Biological Origins

Unger’s (1979) rationale for distinguishing between *sex* and *gender* was that “the term *sex* implies biological mechanisms. Differences between females and males that are merely descriptive are frequently assumed to have biological origins” (p. 1085). Likewise, several authors mentioned that the term *sex* implies biological origins. For example, Goldberg (2010) wrote that “*sex* is often reserved for biological origins and applications, and *gender* is used more expansively to represent social and cultural influences on males and females” (Goldberg 2010, p. 1).

As summarized above, many authors defined *sex* as chromosomes or anatomical structures, or as categories based on these structures, which have biological origins. It was harder to find examples of authors who defined *sex* as behaviors or psychological characteristics originating from biology. The closest we found were examples like this:

Denmark et al. (2005) wrote that the “possession of breasts, having given birth, and the capacity to nurse a baby are traits limited only to biological females and the correct term is *female sex*” (p. 6).

Smith (2007) distinguished between *sex roles* and *gender roles*. She acknowledged the role of society in both, but regarded *sex roles* as more grounded in biology and hence less likely to be influenced by culture than *gender roles*. “Caretaking is considered to be a *sex role* related to biological factors and therefore, one might predict, a role unlikely to be greatly altered by social influences” (p. 6).

Several authors mentioned that differentiating between *sex* and *gender* based on causality is problematic. The causes of differences between women and men are often unclear. Biological influences and social influences do not operate independently; behaviors—and even anatomy—are influenced by an interaction of biological and social factors (Crawford 2006; Hyde 2007; Smith 2007). Donelson (1999) wrote that “even for experiences that clearly are biological—menstruation, giving birth—the social meaning of the experiences often goes beyond the implications necessitated by biology. Biological ‘facts’ occur in a social context” (p. 12). Rothenberg (2004) noted that *sex-role* stereotypes are often viewed as “natural” (p. 6) even though they differ widely among societies. Thus, it would be problematic to distinguish between *sex* and *gender* based on the biological versus cultural origins of traits or behaviors; this might explain why we had difficulty finding examples of authors who actually endorsed this distinction.

Although the authors cited above expressed concern about defining *sex* in terms of biological origins, we found no examples in which authors actually used that definition. In fact, many authors used non-parallel definitions, using *sex* to refer to anatomy and *gender* to refer to characteristics and behaviors with social origins. Thus, authors seemed more likely to attribute differences between men and women to social than biological origins.

Definitions of *Gender*

Gender: Maleness and Femaleness

Some authors used *gender* to refer to males and females. For example, Hyde (2007), who reserved the term *sex* to refer to sexual behavior, defined *gender* as “the state of being male or female” (p. 5). She added, “I am simply going to use *gender differences* for male-female differences,

and leave their causation as a separate question” (Hyde 2007, p. 5). Thus, Hyde defined *gender* broadly, such that even a male–female difference in anatomy would be a gender difference.

Gender: Social Groups or Categories

Some authors used *gender* to refer to the categories female or male—or women and men—when the focus was on the social importance of these categories. The focus on social relevance makes this definition of *gender* narrower than Hyde’s definition. For example, Helgeson (2005) wrote that *gender* “refers to the social categories of male and female. These categories are distinguished from one another by a set of psychological features and role attributions that society has assigned to the biological category of sex” (p. 3).

The guidelines about sex and gender in the APA publication manual also fit here. As noted above, these guidelines say that “*gender* is cultural and is the term to use when referring to women and men as social groups” (APA 2010, p. 71).

Gender: Traits and Characteristics Resulting from Social Origins

Goldberg (2010) observed that *gender* is used “to represent social and cultural influences on males and females” (p. 1). Although we had difficulty finding examples of definitions of *sex* that referred to origins, we were able to find numerous examples of definitions of *gender* that referred to origins. For example, Denmark et al. (2005) defined *gender* as “a social construction that refers to how differences between girls and boys and women and men are created and explained by society. It refutes the notions that most differences between women and men are due to biology and are normal and immutable” (p. 5).

Lips (2008) discussed the difficulty of classifying characteristics as caused by either biology or culture. Taking this into account, she wrote that she would use *gender* “when discussing female–male differences that may be caused by any combination of environment and biology” (p. 6).

In addition, many of the definitions that referred to femininity and masculinity, discussed in the next section, referred to social origins.

Gender: Categories Related to Traits Considered to Be Feminine or Masculine

Several authors defined *gender* in terms of individuals’ feminine or masculine traits or behaviors. For example,

- Smith (2007) wrote that “gender refers to aspects of self that are an individual’s masculinity and femininity, or in other words, his or her nonphysiological self” (p. 5).

- Wood (1999) also defined *gender* in terms of feminine or masculine qualities, saying that gender refers to how much of each an individual has and also to how individuals see themselves:

Each of us has some qualities that our culture labels feminine and some it defines as masculine. How much of each set we have indicates our gender. ... Gender refers to how an individual sees himself or herself in terms of masculine or feminine tendencies. (p. 20)

- Rider (2005) defined *gender* as “psychological traits of masculinity and femininity that develop through socialization” and as “the masculine or feminine behaviors that develop through socialization ... Gender denotes social, psychological, or behavioral characteristics, and not biological or anatomical ones” (p. 21).
- Denmark et al. (2005) offered multiple definitions of *gender*, one of which mentioned these terms: “Gender is often classified into feminine and masculine qualities or behaviors” (p. 8).
- Holmes (2007) wrote that since the 1970s, sociologists have distinguished “between **sex** (biological differences between males and females) and **gender** (socially produced differences between being feminine and being masculine)” (p. 2, emphasis in the original). Holmes, however, did not offer a clear definition, instead concluding that “Gender is a complex phenomenon” (p. 171).

The definitions in this section refer to gender as feminine or masculine characteristics or traits within individuals; that is, they conceptualize gender as an individual-difference or subject variable. In contrast, the definitions in the next section conceptualize gender as a stimulus variable.

Gender: Stereotypes or Expectations That Society Attributes to Women and Men

In her 1979 article, Unger had suggested defining *gender* as “those characteristics and traits socioculturally considered appropriate to males and females” (p. 1085). In current texts, several authors used such a definition. For example,

- Denmark et al. (2005) wrote that gender “is actually comprised of traits, interests, and behaviors that societies place on or ascribe to each sex” (p. 4).
- Lips (2008) offered two definitions of *gender*, one similar to Unger’s—“the system of expectations held by societies with respect to feminine and masculine roles” (p. 6).
- Etaugh and Bridges (2010) defined *gender* as “the meanings that societies and individuals give to female and male categories” (p. 2).
- Rothenberg (2004) defined *gender* as the “socially constructed meanings that are associated with each sex” (p. 6).

Using such definitions, it would be inappropriate to refer to empirical differences between women and men as “gender differences” because in these definitions, gender refers to stereotypes and expectations about women and men, not to actual differences between women and men. With such definitions, there would be no clear term to refer to individual-difference or subject variables.

Some authors dealt with this issue by defining *gender* as both a stimulus variable and an individual-difference or subject variable. For example, in addition to the definition above, Lips (2008) also defined gender as “female–male differences that may be caused by any combination of environment and biology” (p. 6). Hyde (2010) described gender as “not only an individual-difference or person variable but also a stimulus variable” (p. 180).

Gender: Performance of a Socially Expected Role, or Doing Gender

In their classic article, “Doing Gender,” sociologists West and Zimmerman (1987) conceptualized gender as “a routine accomplishment embedded in everyday interaction” (p. 125). Philosopher Judith Butler (1990) also construed gender as a performance: “Gender proves to be performative—that is, constituting the identity it is purported to be. In this sense, gender is always a doing” (p. 25). Butler argued that individuals could choose to perform different genders at different times, so one is not a singled fixed gender; instead, gender is merely something that one does.

The concept of doing or acting out gender has been adopted by many authors. For example,

- Denmark et al. (2005) wrote, “To a greater or lesser extent, all females and males are involved in the ongoing, day-to-day activities that make up ‘doing’ gender (West & Zimmerman, 1987), or living up to society’s prescriptions for gender based on their sex” (p. 5).
- Matlin (2008) commented that “the phrase *doing gender* emphasizes that gender is an active, dynamic process rather than something that is stable and rigid” (p. 4).
- Rosenblum and Travis (2003) defined *gender* as “the culturally and historically specific acting out of ‘masculinity’ and ‘femininity’” (p. 23).
- Lorber and Moore (2007) defined *gender display* as “presentation of self as a gendered person through the use of markers and symbols, such as clothing, hairstyles, jewelry. Managing interaction with others using attitudes and physical activities considered appropriate for one’s sex category” (p. 6).
- Golden (2008) wrote that gender can be viewed as an “accomplishment,” (p. 142), a self-presentation that individuals strive consciously or unconsciously to create.

Issues in Defining Sex and Gender

Consistencies and Inconsistencies Among Contemporary Authors

As we showed, different authors have offered numerous definitions of *sex* and *gender*. There are some consistencies among them. They all construed sex and gender as somehow related to people that society labels as female or male. Most construed gender as more related to cultural influences and sex as more related to biology.

There were numerous inconsistencies, however. In some cases, different definitions led to different conclusions about which of these words was appropriate in various contexts. For example, earlier we quoted several authors who said that the journal *Sex Roles* actually deals with gender roles. Probably not all authors would take this position, however. Smith (2007), for example, defined *sex roles* as “behavioral patterns that society regards as seemly for a particular biological sex” (p. 5)—a definition similar to Unger’s (1979) definition of *gender*. Based on Smith’s definition, the title *Sex Roles* is well suited to the content of the journal.

At the beginning of this paper we mentioned the dissertation committee member who said that assessing gender would have required administering a scale such as the Bem Sex Role Inventory (BSRI; Bem 1974). Writing about the BSRI, Donelson (1999) pointed out the paradox that the “dominant measure of adoption of gender roles is called a measure of sex roles” (p. 13).

Authors disagreed about whether caretaking should be considered to be a sex role or a gender role. Smith (2007) considered caretaking to be a sex role: “Caretaking is considered to be a sex role related to biological factors” (p. 6). In contrast, Rider (2005) considered caretaking to be a gender role:

Gender roles are the culturally prescribed behaviors and traits that dictate how males and females should act. ... [An example of a *gender* difference is] the amount of time men and women spend caring for children. This gender difference may be associated with sex; after all, only women can breast-feed. But aside from providing milk, men can care for children as well as women. (p. 21)

If researchers find a difference between people who identify as female and male, or as women and men, what have they found? Some authors would call this a *sex difference*. For example, Helgeson (2005) argued that if “the author is simply referring to differences between people who are biologically male versus biologically female without any thought to their psychological attributes ..., the correct term would be sex differences” (p. 4). Similarly, Glasser and Smith (2008)—who argued that *male*

and *female* “are typical categories for sex” (p. 343)—advocated that when referring to differences in mathematics scores “between male and female students ... the differences might more appropriately be labeled ‘sex differences’” (p. 344) rather than “gender differences.” Rosenblum and Travis (2003)—who defined *gender* as “the culturally and historically specific acting out of ‘masculinity’ and ‘femininity’” (p. 23)—wrote that the term *gender* is “often used erroneously as being synonymous with biological sex. For example, newspapers describe what are really sex differences in voting as ‘gender differences’” (p. 23).

So Helgeson (2005), Glasser and Smith (2008), and Rosenblum and Travis (2003) would consider female–male differences in math scores or voting behavior to be sex differences. In contrast, many other authors would consider such differences to be gender differences. An obvious example is Hyde (2007), who used *gender differences* to refer to all male–female differences because she reserved the term *sex* to refer to sexual behavior. However, even among authors who describe some female–male differences as *sex differences*, many would use the term *gender differences* when describing differences in math scores or in voting patterns. Denmark et al. (2005) suggested that psychologists could explore the origins of “gender differences” studying “girls with exceptionally high math abilities” (p. 10). Rider (2005) considered differences in the time that women and men spend caring for children to be gender differences. Donelson (2005) wrote that “differences in social behaviors ... have long been called sex differences, though they seem to be gender differences” (p. 13).

Definitions and Measurement: Match or Mismatch?

If researchers ask participants to indicate whether they are female or male, and if they find a female–male difference in attitudes or behaviors, some would call this a *sex difference*, and others would call it a *gender difference*. Paradoxically, even though many authors consider the terms *female* and *male* to refer to sex rather than gender, many would still refer to behavioral differences between those who check *female* and those who check *male* to be gender differences.

In this paper, we reviewed numerous definitions of *sex*, many of which referred to chromosomes, hormones, and genitals, and we reviewed numerous definitions of *gender*, many of which referred to femininity and masculinity, or to doing or acting out various roles. Many researchers report results about sex-differences or gender-differences, but few measure the concepts mentioned in these definitions. Research participants are often asked to check a box indicating whether they are male or female. Few research participants are asked about their chromosomal makeup, hormones, or genitals. Likewise, few are asked about the roles that they enact or about their feminine or

masculine characteristics. Thus, there seems to be a general mismatch between definitions and measurement of these constructs.

Recommendations Made in the Literature

Several authors have made recommendations about using the terms *sex* and *gender*. Some of these recommendations have involved clarifying assumptions about the cause of the differences that researchers find. For example, McHugh et al. (1986) emphasized the importance of clearly and explicitly defining the terms *sex* and *gender* when reporting research results. They pointed out that using terms like *sex difference* may imply a biological cause when, in fact, the causes of any observed differences between men and women are complex and ambiguous. They advocated using “a more neutral term like *sex-related*” (p. 881) when discussing differences between men and women.

Gentile (1993) proposed an elaborate system of five terms to convey the cause of such differences:

- (1) *sex*: to refer to the biological function;
- (2) *biologically sex-linked*: to refer to traits or conditions that are causally biologically related to being male or female;
- (3) *gender-linked*: to refer to traits or conditions that are causally linked with maleness or femaleness but are culturally based as opposed to biologically based;
- (4) *sex- and gender-linked*: to refer to traits or conditions that are causally related to both a biological component and a cultural component;
- (5) *sex-correlated*: to refer to traits or conditions that are related to being male or female without asserting a causal relation to either biology or culture (because we do not wish to make such an assertion or cannot do so confidently). (p. 120)

Other researchers, such as Unger and Crawford (1993) and Deaux (1993), rejected Gentile’s suggestion, saying that this system is cumbersome and that the causes of such differences are unknowable.

Glasser and Smith (2008) wrote, “because consensus on the meaning of *gender* remains elusive in education research (beyond, at best, its social and cultural basis), we recommend that researchers acknowledge this reality and clearly state their meaning if they want to use the term” (p. 349). We would add that a consensus about the meaning of the term *sex* also remains elusive.

As mentioned above, the most recent edition of the APA publication manual suggests using *gender* “when referring to women and men as social groups” and using *sex* “when the biological distinction is predominant” (APA 2010, p. 71).

In contrast, Yoder (2003) offered a different perspective, suggesting that feminist psychologists let go of the distinction between sex and gender:

Sex implies biological bases (such as chromosomes, hormones, genitals, etc.) **Gender**, in contrast, implies psychologically, socially, and culturally based differences between women and men. On the face of it, sex seems more determined and unchangeable; gender, more malleable.

If we dig deeper though, biological sex isn't as immutable as we might have thought at first. There is growing evidence that not only does biology affect behavior, but experiences affect biology as well, reflecting what has been called a "principle of reciprocal determinism"

However, I believe that as the flexibility of biology becomes more and more acknowledged, feminist psychologists will find it useful to let go of the presumed distinction between sex and gender, nature and nurture This opens the door to regarding *sex and gender as inseparable and intertwined* so that a holistic understanding of women and men, girls and boys, will include biology (sex) and what our culture makes of our biological sex (i.e., gender). (Yoder 2003, p. 17, emphasis in the original)

Consistent with Yoder's (2003) prediction, some researchers have found links between gender identity and parts of the brain. For example, researchers investigating parts of the hypothalamus found that for the six male-to-female transsexuals in their sample, these structures were similar to those of the women in the control sample, and for the one female-to-male transsexual in their sample, these structures were similar to those of men in the control sample (Garcia-Falgueras and Swaab 2008; Kruijver et al. 2000; Zhou et al. 1995). Thus, these parts of the hypothalamus were more closely related to gender identity than to chromosomal sex. Many definitions that we reviewed construed anatomical structures as indicators of sex rather than gender. What are the implications for these definitions if some anatomical structures relate to gender identity?

Conversely, sex can be construed as socially constructed. Individuals are born with a wide distribution of biological indicators of sex (Fausto-Sterling 2000). In many Western societies, surgery and hormones are used to make bodies fit as neatly as possible into two nonoverlapping categories (Fausto-Sterling 2000). Social expectations and taboos continue to create difference in these two categories, such as by encouraging boys and men, but not girls and women, to engage in sports and work that develops their muscles (Hubbard 1990).

Note that when we say that two sexes are *socially constructed*, we do not mean that all the differences between males and females result from socialization. We are not equating social constructionism with socialization. We are saying that societies create categories of sex—such as male and female—and assign individuals to each. When individuals do not fit these categories, the individuals can be changed via hormones and surgery so that they fit the categories; they can be encouraged to keep their differences hidden; or they can be treated as aberrant, unfortunate individuals who were born with a defect; that is, the problem can be attributed to the individuals rather than to society's narrow categories. These strategies serve to maintain the cultural beliefs that these two categories are natural and exist in nature rather than as social constructions and that everyone fits neatly into these two categories.

Conclusions

In reviewing the psychological literature, we found that many authors discussed the importance of distinguishing between sex and gender. We found no consensus, however, about how to distinguish between these terms. We found numerous, often-contradictory definitions of these concepts. Despite this, some authors took an essentialist stance toward sex and gender, referring to some usages as "correct" or "appropriate" and others as "incorrect," or explaining how these terms should "really" be used. In contrast, as social constructionists, we are not going to make suggestions about what these terms really mean or how they should be defined.

At one time, distinguishing between sex and gender was a valuable contribution. It provided a way to reject biological determinism that linked biology with rigid sex roles and expectations. It provided a way to understand transsexual individuals, whose biological sex did not match their gender identity. Like Yoder (2003), however, we predict that, as researchers learn more, the distinction between sex and gender may become less important or meaningful.

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