

# THE USE OF “SEX” AND “GENDER” TO DEFINE AND CHARACTERIZE MEANINGFUL DIFFERENCES BETWEEN MEN AND WOMEN

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## INTRODUCTION

The issue of how to describe differences in health status, or in the etiology, progress, and treatment of disease between men and women, is fraught with lexical and conceptual difficulty. Should differences — for example in rates of heart disease, participation in research, adherence to treatment, or access to specialty services — be attributed to “sex” or to “gender?” In the social sciences, the two terms usually describe conceptually distinct approaches to understanding difference, “sex” denoting biologically based differences and “gender” indicating culturally shaped variations between men and women (or between notions of masculinity and femininity).

Unfortunately, the language of difference in the biomedical literature is often imprecise, conflating the two terms and treating them as virtual synonyms. This imprecise use is not only linguistically problematic but has serious implications for future research, clinical practice and treatment, as well as our very understanding of the nature of the health outcomes and status differences that we are studying. Without a strong conceptual and theoretical understanding of the distinction originally intended by those who clarified the difference between sex and gender, confusions are replicated. Choosing one term over another may seem like an innocent matter of semantics; however, the effects of such language choices and the meanings that they carry with them have had a significant impact on the equitable treatment of women in biomedical research and clinical practice. We must be able to

define difference to take into account states of wellness and disease that women share with men and those that they do not. As the research agenda presented in this volume is implemented, a sophisticated lexicon of difference will be essential to ensure the just treatment of women.

## THE SEX / GENDER DISTINCTION

To understand the tenets of the sex/gender debate and its effects on current concerns in women’s health, one must first review the origins of the lexicon itself. The original distinction between “sex” and “gender” emerged in the mid-20th century. Feminist (and other) scholars distinguished between those qualities conventionally attributed to biologically based differences about a person’s “sex,” male or female, and those qualities that were understood as the result of cultural and social processes that constitute a person as man or woman: one’s “gender.”<sup>1-9</sup>

This distinction was one part of the challenge to the dominant beliefs of the late 19th and early 20th centuries, which held that difference was biologically determined and that women’s constitutions were more biologically driven than those of men.<sup>10</sup> A similar challenge was made to the notions of biologically determined racial characteristics attributed to African Americans and others, which allegedly accounted for differences in affect, intelligence, and economic status. Over the past 25 years, use of the sex/gender distinction and lexicon has been fairly widespread throughout

both the social sciences and the humanities. In fact, more often than not, “gender” is used in these fields to describe differences between men and women to emphasize the idea that differences cannot merely be attributed to biological or physiological processes, but rather are almost always influenced by cultural, social, and historical contexts.

## SEX AND GENDER IN BIOMEDICAL LITERATURE

By contrast, in the biomedical sciences the distinction between “sex” and “gender” has been almost uniformly ignored. In fact, a quick glance at any database of medical literature reveals that not only are the terms “sex” and “gender” used synonymously, but that “gender” is often used instead of “sex” for describing biological factors, presumably because it is considered more “politically correct” to do so.<sup>11,12</sup> This conflation is common in popular culture as well. However, in light of the history of the emergence of “gender” as a conceptual framework, the imprecise and oftentimes careless usage of “gender” in the biomedical literature leads to misinterpretation and imbues the reported research results with unintended meanings. At the very least, the use of the term gender implies an acknowledgment and recognition of the sex/gender distinction, and, at most, it implies the understanding that “sex difference” is the result of complex arrangements between “biology” (e.g., genetics, hormones, physiology) and “culture” (e.g., hierarchical relationships, historical and geographical location, social interactions). Yet this implicit meaning often belies the results themselves, for they reveal that no such understanding is intended. For example, a recent conference entitled “Gender Differences in Pain” actually focused exclusively on biological differences between men and women, and therefore might have more correctly been titled “Sex Differences in Pain.” Inclusion of “gender” in the title implies an understanding of the social and cultural components of sex differences in pain perceptions, and, in particular, would include discussions of the well established and recognized observations of the culturally and socially

embedded assumptions that physicians make that women, as opposed to men, overestimate and inflate their painful symptoms.<sup>13</sup> However, these topics were not discussed at the meeting, which instead focused solely on the biological determinants of pain perception. The conference title, striving for political correctness, yielded only mystification.

This confusion is exemplified by recurrent debates in the “letters to the editor” sections of many medical journals. In the *Journal of the American Medical Association*, a letter under the heading “The Eternal Battle of Sex vs Gender” expressed the author’s distress that in the “Instructions for Preparing Structured Abstracts” that “gender” was used instead of “sex.” However, the complaint was issued not because the author felt that “gender” implied something in particular about sex differences that should be considered, but rather that “gender” should be reserved as a grammatical term referring to the masculinity or femininity of nouns (as in most Romance languages). In other words, nouns can have a gender; people only have a sex. The editor’s response is equally revealing: while citing various sources for definitions of gender she concludes that the “evolving nature of the word gender causes some fuzzy usage . . . [perhaps the time is ripe for a book on One Hundred and One Things You Wanted to Know About Gender and Were Not Afraid to Ask.]<sup>15</sup> Although this letter was published in 1991, the confusion and uncertainty in medical journal publishing persists. One correspondent argues that the use of gender in scientific writing as anything other than the grammatical classification of a noun is improper use and “unpardonable.”<sup>16</sup> Echoing this sentiment, the *New England Journal of Medicine* asked an author to “correct” the title of his paper on gender differences in health insurance, as the editors felt that the word “gender” referred only to the grammatical case of foreign nouns.<sup>17</sup> The unwillingness of biomedical journals to consider other uses and meanings of “gender” exacerbates the confusion over the matter, as the term continues to be used both within and outside of biomedical literature.

## NEW DIRECTIONS IN THE DEBATE

To further complicate matters, social scientific research on the sex/gender distinction continues to reveal the ways in which this distinction itself does not reflect the complex relationship between or meanings of both sex and gender. Thus, while biomedical discourse has not even grappled with the original lexicon of sex and gender, the sex/gender debate in the social sciences continues to move in new directions, leaving biomedicine further behind. One such direction is the way in which the designation of “biological sex” itself as a binary concept of male versus female ignores the realities of both biology and sex. Social scientists argue that the category “biological sex” is a complex arena in which a variety of genetic, metabolic, and hormonal factors create individuals for whom a sex is socially assigned. Although one’s sex is most often determined by one’s genotype (i.e., XX or XY chromosomes), some scholars argue that the binary assignment is itself a cultural construct, and perhaps it is more appropriate to classify sex on a continuum, or at least a categorical system that includes more than two categories.<sup>18-20</sup> Still other scholars study the fairly arbitrary assignment of sex that is made for individuals for whom no specific “sex” (read: male or female) assignment is possible due to physical ambiguities.<sup>19,21-23</sup> In developed countries, such arbitrary assignment is often accompanied by genital surgery to “fix” any uncertainty in the child’s visible sex. These cases beg the question of what is “sex.”

Our understanding of the sexed body, particularly the female body, and the aspects of it which are deemed biologically “determined” has actually shifted substantially in the last century. In the late 19th century, biologically determined “femaleness” was thought to be localized in a particular organ, first the uterus and then the ovaries.<sup>24-26</sup> In the early 20th century, the locus of the biologically determined “essence” of “femaleness” was viewed as hormonal. In fact, a hormonal conception of the body is now one of the dominant ways of thinking about the biological roots of sex differences.<sup>18,27</sup>

Certainly the interest of biomedicine in the hormonal bases for health and disease in women is critically important, particularly in light of recent research on the potential protective benefits of estrogen against heart disease, the popularity of both birth control pills and hormone replacement therapies, and the increase in use of hormones in infertility treatments. However, attention to the hormonal bases of health and disease to the exclusion of other contributing factors in women continues to relegate women’s health to narrow biological definitions.

In addition, we are facing the possibility of yet another return to biological determinism with the emerging dominance of genetic models of disease causation within biomedicine. Already in many ways, the female (and male) body is a “genetic” body: her sex is determined most definitively by her genetic sex or genotype. It is certainly the case that many are attempting to define disease states based on genotype. Studies are underway to locate genetic components of breast cancer, alcoholism, Alzheimer disease, and many others. This trend may have distinctive consequences for women’s health as the new genomics may serve as a paradigm for biologically determined “femaleness” as well.

The nature of the relationship between sex and gender has also been examined by social scientists who argue that our notions of the ways that gender “maps onto” sex may be simplistic and neglect the diversity of experiences of both men and women. Although there is the desire to separate that which is biologically determined about sex differences and that which is social, cultural, and environmental, scholars have since argued that neither sex nor gender — nor the relationship between “sex” and “gender” — can be understood so simplistically. However to lump everything into either the “sex” or “gender” category, depending on your political or disciplinary persuasion, is equally problematic, for one’s linguistic decision implies assumptions about the nature of difference. As a result, feminist scholars have been attempting to move past the sex/gender distinction without neglecting or dismissing the pull of biological determinism whenever discussing sex or the complex “real life” experiences of men and women.

## EQUITABLE AND JUST TREATMENT FOR WOMEN

The lack of an appropriate lexicon of sex difference in biomedicine has had a serious impact on the just and equitable treatment of women in biomedical research and clinical medicine. The ambiguity and confusion about appropriate language speaks of a larger ethical problem of how it is that sex difference has been conceived, studied, and addressed in biomedicine. Our understanding of the nature, importance, and implications of sex difference is growing, as should our understanding of the complexities and dilemmas of researching and reporting such differences. It was not long ago that women were routinely excluded from large-scale clinical trials. For instance, most trials for the prevention of heart disease studied middle-aged males and excluded women because of a complex set of assumptions, including the perception that women's hearts were the same as men's. In this case an assumption of sameness led to unethical and neglectful treatment of women.<sup>28–30</sup> Yet, one of the reasons women were not included in these trials is because of the perception that women's bodies (hormonally and reproductively) behaved very differently than men's and that these factors would complicate the collection of safe and reliable data. Therefore, women were enough like men to warrant exclusion from clinical studies, yet, they were too different to be included as part of the same study. This confusing and paradoxical attitude towards sex difference in clinical trials demonstrates the complexities and problems attending to sex difference. The human subjects guidelines have changed to require the inclusion of women in clinical trials, yet the question remains of how similarities and differences between men and women will be explored, studied, and compared.<sup>28–32</sup>

In some cases of biomedical research and clinical treatment, sex difference is not explicitly attended to, yet its implications lie just below the surface. An example of this phenomenon is the treatment for women with depression. Although we have sufficiently documented the higher proportion of women than men who are medically treated for depression, we

have not turned our attention to the implications of this difference.<sup>33</sup> It is here that the sex/gender debate may well be able to provide a backdrop for studying this observed difference. In other words, does noting this difference between men and women unknowingly imply that the difference can be attributed to biological factors? Are women at “higher risk” for depression simply by virtue of being female? We can hypothesize many explanatory models for this observation, ranging from biological and hormonal factors that predispose women to depression to a “cultural” model that would explore the mental health consequences of sociocultural stratification, including women's greater tendencies to seek medical care, in concert with physicians' tendencies to pathologize women's mental health problems.<sup>34,35</sup> The model we hypothesize depends on our perceptions and conceptualization of the nature of sex difference itself; leaving that conceptual base unexamined is dangerous for women's health and women's health research. It is also of potential harm to men. Pfeffer (1985) argues that men's reproductive health problems have conventionally been treated similarly to women's health problems, that is, pathologized.<sup>36</sup>

Accompanying the conceptual difficulties associated with the lack of an appropriate lexicon of difference is an inability to explore underlying causes of “women's” diseases. The effects of this inability on treatment are enormous. One example is the way in which tranquilizers have been prescribed to large numbers of women, based on the assumption that such drugs are “safe” and “non-addictive,” and that women must be “naturally” more nervous and anxious than men. The treatments offered women in these cases, most often prescription drugs, have been unnecessarily limited due to a lack of conceptual understanding of the underlying causes for the differences in women's experiences.

A further ethical concern stems from the recurrent debates about “nature” versus “nurture” that have become an inherent part of the emergence of the biotechnologies of genetic testing. With the Human Genome Project more than halfway complete, biomedical researchers and clinicians face questions daily about what exactly is biologically determined and what can

be attributed to “environment,” or perhaps the even harder question of how do genes (or one’s biological make-up) interact with one’s environment? Sex differences become part of this complex set of questions: in the same way that we must look at the complex interplay between “biology” and “culture” to understand disease causation, prognosis, and treatment options, we must also look at the differences between men and women. Ethically, this is a difficult task. In the case of the new biotechnologies that allow for genetic testing for susceptibility to disease, the ethical implications of developing, offering, or performing such tests are enormous. If we offer someone a genetic test for a disease that cannot be prevented or cured, are we offering patients meaningful choices? This is equally true for questions about the nature of sex difference. To assume that the differences in health status or outcomes between men and women is biological leaves us a restricted set of choices for research and treatment. If we do not explore the complex relationship between “nature” and “nurture” how can we conduct appropriate research into health and disease in women and treat them fairly?

The use of an imprecise lexicon for describing differences between men and women in biomedical research has consequences for the conduct of science as well as for the clinical treatment of women. In each of the above examples, and in numerous others, the use of categories of “men” and “women” for describing difference assumes that the differences between the two categories are greater than differences within the two groups.<sup>10</sup> By relying on sex category differences as the primary marker of difference other potentially important factors may be ignored, for example the complex interaction of race, sex, and social class within our health care system.<sup>10</sup> This case has been effectively made for the social category of race, where both the ethics and the science of research based on differences between racial categories has been questioned.<sup>10,37,38</sup> Within biomedical research that studies racial difference, there is often the implicit assumption that the differences between racial groups are biologically based or genetically determined. Yet many have problematized this assumption, pointing out the ways in which there are often larger differences within categories than between them.

Moreover, documenting differences based on supposedly categorical differences between races within biomedicine not only assumes that such differences are somehow inherent to those within that racial category, but also has the potential to stigmatize and blame those considered within that category for falling ill. This affects clinical visits and treatment options for such individuals. Assumptions about categorical differences between the sexes is no different, and should be held equally suspect. Indeed, both “race” and “sex” characterizations have often been used not for delineating important differences in terms of treatment but for underlying political and cultural reasons which have proved highly detrimental to both women and racially stigmatized groups. Developing a precise lexicon of sex difference would be a primary step away from such deleterious distinctions, for it demands that we focus on the ways in which we measure and report differences between men and women, and most importantly allows us to specify what these differences mean for biomedical research and ultimately for patients in clinical settings.

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