

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/231786663>

Distinguishing Sex and Gender

Article in *Political Science and Politics* · January 2011

DOI: 10.1017/S1049096510001939

CITATIONS

22

READS

6,641

2 authors, including:



Rose Mcdermott
Brown University

124 PUBLICATIONS 3,954 CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:



Neuroscience and National Security [View project](#)

Distinguishing Sex and Gender

Rose McDermott, *Brown University*

Peter K. Hatemi, *United States Studies Center, University of Sydney*

ABSTRACT We argue for the importance of adequately distinguishing between the concepts of sex, gender, and sexual orientation. We review the literature across disciplines to suggest ways that political scientists might benefit by taking into account important biological distinctions in addition to cultural factors regarding sex, gender, and sexuality in their research. We clarify the distinction between these concepts in an effort to help reduce discrimination and defuse misconceptions, stereotypes, and imposed social roles. We believe that it would be fruitful for us as a discipline to better communicate this research to the wider public in the hope that public opinion and elite discourse will shift in a more tolerant and positive direction as a result.

Editor's note: This article is part of a series of short pieces organized by the Committee on the Status of Women in the Profession (CSWP) on topics relevant for gender and politics. We note that this topic may be viewed as controversial, with some strongly rejecting the notion that all these gender issues are not socialized or that the authors are trying to be essentialist in ways that do not respect individuality. However, the authors' attempt to examine differences empirically, rather than assuming concordance, provides analytic traction for future investigations of sex and gender. The CSWP encourages this kind of article, which boldly addresses these important and contentious issues with integrity and serious scholarship.

—Kristen Monroe for the CSWP

Despite its importance for many public policy choices, the majority of scholarship in political science does not adequately distinguish, either theoretically or methodologically, between the concepts of sex, gender, and sexual orientation. We begin by noting that this topic is emotionally tinged and fraught with the kinds of difficulties that accompany any attempt to apply categories to identity. While recognizing that one's identity is highly individual and personal and that individuals should always have the full range of freedom to choose their multitudinous identities, it can nonetheless prove useful to analytically distinguish between a few categories—such as sex and gender—to allow more precise

scholarship and further public discussion in hopes of producing more humane public policies.

In this article, we review the literature across disciplines to suggest ways that political scientists might benefit by taking account of important biological distinctions *in addition* to cultural factors regarding sex, gender, and sexuality in their research. This article seeks to clarify these concepts and the sources of individual difference across these domains in an effort to help reduce discrimination and defuse misconceptions, stereotypes, and imposed social roles. The assumption underlying our review is that the more that science learns about sex, how it overlaps but differs from gender, and the ways in which sexuality emanates in large part from innate sources, the more likely it is that public opinion and elite discourse will shift in a more tolerant and positive direction. We believe that it would be fruitful for us as a discipline to better communicate this research to the wider public. We recognize that many biologically based phenomena remain socially stigmatized, and, thus, showing that, for example, sexual orientation may involve some interaction between biological disposition and social development may not prove sufficient to sway those already invested in entrenched biases that privilege one developmental pathway over another. However, historically, educating leaders and the public on these matters has proven extremely beneficial. While action is never immediate, change can occur over relatively short time frames.

The concept of gender, particularly as a demographic construct, actually embodies three separate but overlapping, correlated, and distinct components. In other words, when political scientists refer to “gender” in a survey, they are referring to and conflating several overlapping and meaningfully distinct underlying constructs. These elements remain linked, but they differ in critical ways. The first component encompasses biological sex, which, short of surgical and hormonal intervention, remains constant for most individuals across their life span. While there are some individuals who undergo sex changes and a not-trivial number who are born intersex, most people possess biological organs of reproduction that distinguish them as male or female.¹

Rose McDermott is a professor of political science at Brown University. A 2008–09 Fellow at the Center for Advanced Studies in the Behavioral Sciences at Stanford University, McDermott has also taught at Cornell and UCSB and held fellowships at Harvard's Olin Institute for Strategic Studies and Harvard's Women and Public Policy Program. She will be a fellow at the Radcliffe Institute for Advanced Study at Harvard University during academic year 2010–11. She can be reached at rose_mcdermott@brown.edu.

Peter K. Hatemi is a Fellow at the United States Studies Center, Australia. He received his Ph.D. in political science from the University of Nebraska and completed a postdoctoral fellowship in human genetics and psychiatry at the Virginia Institute for Psychiatric and Behavioral Genetics. He works primarily on the study of neurobiological foundations of social and political behaviors. He can be reached at phatemi@gmail.com.

The second aspect of categorization incorporates the notion of gender and relates to traits of masculinity or femininity, including such characteristics as sex-typed interests and occupations, appearance, mannerisms, and nonverbal behavior (Lippa 2005). The concept of gender is assumed to correlate with various role definitions, personality traits, and components of identity. These constructions become infused with cultural values that differ across time and place and were historically assumed to result from processes of socialization. However, modern examinations provide much stronger support for biological foundations of gender (Garcia-Falgueras and Swaab 2010). These constructs can influence a wide variety of behaviors that affect societal notions of relationships, work, and parenting, among other factors.

Various ways of measuring gender exist. One of the best known, the Bem Sex Role Inventory (Bem 1981), allows individuals to assess their masculinity and femininity along distinct continuums. No *a priori* assumption regarding the relationship between an individual's gender construction and biological sex exists in this theoretical model. Each factor can vary independently, such that individuals can be defined as masculine females or feminine

ties needs to be kept theoretically distinct. In addition, this distinction is important to achieve a fuller understanding of the true ways in which sex, gender, and sexual preference may be related, and how each may independently and in combination affect political outcomes of import. We note here that some may argue that scholarship cannot be progressive and essentialist at the same time (Butler 1990). We disagree. The measurement of an identity category on a survey represents an essentialist move; however, the use of survey work to advance understanding in a progressive way can avoid some of the pitfalls of essentialism.²

Opinions regarding gay marriage prove instructive in this regard, since attitudes have relaxed as more information regarding some of the innate sources of sexuality has passed into the public discourse. In 1993, *Science* published a highly influential, though still debated, study on the innate nature of homosexuality (Hamer et al. 1993), in which a team of geneticists from the National Cancer Institute (NCI) identified a gene related to male homosexuality on the X chromosome. The same year, the debate over the legalization of same-sex marriage re-emerged in the courts. In 1993, the Hawaii Supreme Court held that the law banning

As with the notion of gender itself, which is often used to refer to both sex and gender, the concept of sexual preference also incorporates several distinct elements. The physical acts that constitute a given individual's sexual preference can be separated from the nature of the individuals with whom they choose to engage in such practices. For analytic purposes alone, each of these identities needs to be kept theoretically distinct. In addition, this distinction is important to achieve a fuller understanding of the true ways in which sex, gender, and sexual preference may be related, and how each may independently and in combination affect political outcomes of import.

males; alternatively, one may be both highly masculine and feminine or neither. This approach to classification means that individuals can have gender identity preferences that diverge from the biological category into which they were born.

A third aspect of categorization regards sexual preference. Scholars typically do not link this aspect of identity to sex and gender, but in reality, these notions are often conflated in the public discourse, whether intentionally or not. In addition, notions of gender nonconformity and homosexuality are often linked in societal assumptions and political punditry, but they are not at all the same. For those who doubt this tendency, consider the recent discussion in Congress over the allowance of gays in the military, in which concepts of sex, gender, and sexual preference were often conflated. Masculine straight men represent the epitome of value in this community, despite the fact that over 10% of the armed forces are women. Just like sex and gender, sexual orientation remains a distinct analytic category; individual men and women can be attracted to either men or women. Masculine women can be straight, just as masculine men can be gay.

As with the notion of gender itself, which is often used to refer to both sex and gender, the concept of sexual preference also incorporates several distinct elements. The physical acts that constitute a given individual's sexual preference can be separated from the nature of the individuals with whom they choose to engage in such practices. For analytic purposes alone, each of these identi-

ties needs to be kept theoretically distinct. In addition, this distinction is important to achieve a fuller understanding of the true ways in which sex, gender, and sexual preference may be related, and how each may independently and in combination affect political outcomes of import. We note here that some may argue that scholarship cannot be progressive and essentialist at the same time (Butler 1990). We disagree. The measurement of an identity category on a survey represents an essentialist move; however, the use of survey work to advance understanding in a progressive way can avoid some of the pitfalls of essentialism.²

same-sex marriage was unconstitutional. A little over a decade later, in 2004, Massachusetts became the sixth place in the world to legalize gay marriage. The trend toward greater tolerance became national, and today, although a slight majority of Americans still oppose gay marriage, the majority of the population now approves of civil unions between homosexuals. This number represents a remarkable change in attitudes over the course of 20 years. Furthermore, a great deal of this change coincides with shifts in elite discourse. Indeed, in a recent panel survey of Iowans, Redlawsk and Tolbert (2010) noted a significant shift in pro-gay marriage attitudes and a concomitant decline in anti-gay marriage attitudes after the state Supreme Court had ruled on the constitutionality of the matter. Thus, in that case at least, as elites and science moved, so too did public opinion.

Yet, a perspective that highlights the distinction between sex and gender sharply contrasts with a great deal of extant scholarship that treats these concepts synonymously (Urduy 2000). We encourage a separation of the notion of sex from the concept of gender and, even further, from definitions of sexual orientation. To remove the moral judgments imposed by some individuals on others, it becomes critical to separate notions of choice from those of natural disposition; just as people do not choose the color of their eyes or hair, individuals do not simply choose their natural gender or sexual orientation, although people have often chosen to not act on their inherent preferences as a result of the cultural

and policy punishments associated with deviating from heteronormativity. Conflating these realities only serves to elide and hide potentially important theoretical and empirical distinctions. In addition, such truncation makes notions of deviance from some particular societal norm salient to many individuals in ways that cause inordinate and unnecessary discomfort. These concepts obviously remain quite complex in their manifestation, but treating sex and gender as though they represent identical phenomena provides a limited understanding of the myriad ways in which any kind of identity informs behavior. By breaking the construction of sex into its component parts, we can begin to question and clarify the assumptions that presume the uniformity of sex, gender, and sexual identity preference. This strategy allows for greater empirical and theoretical traction.

For example, although a great deal of work has explored the biological basis of sexuality, the distinction between biological sex and gender in terms of existential perceptions of masculinity and femininity has often been overlooked. However, gender identity can develop independently of sex, and it can exert different influences on political outcomes of interest. A recent paper by Hatemi et al. (forthcoming) found that gender, defined in terms of femininity-masculinity, results largely from genetic and unique environmental influences, including individual in-utero effects, but socialization makes no significant contribution to the development of this identity. In addition, both childhood gender conformity as well as adult gender identity (masculinity and femininity) can be distinguished from sex, and such gender measures are significantly related to support for political parties. Gender conformity exists across a modestly wide spectrum, not unlike political ideology. A critically important note to the findings reported in this study is that gays and lesbians were removed from the sample to show that gender varied, sex or sexuality withstanding. The findings suggest that forcing everyone into a male or female category needlessly restricts the wide variety of human experience and expression, the diversity of which can serve many functions.

Indeed, the importance of specifying conceptual distinctions lies precisely in our ability to locate more clearly the causal mechanisms of interest between our social and political variables of interest. If the concept of gender actually contains several different, albeit overlapping, elements, greater clarity can help refine causal models. This process can work in a manner similar to the way that epidemiology allow observers to relate medical and social variables. To properly diagnose the relationship between genetic predisposition and environmental exposure, epidemiologists must first carefully specify the appropriate categories of vulnerability and risk. In a similar fashion, scholars have refined the category of race to include a wider variety of categories, subcategories, and possibilities for self-identification in various surveys to examine the different ways that perceptions influence political outcomes of interest. We suggest that undertaking a concomitant deconstruction of the notions of sex and gender would allow for greater precision in modeling outcomes and could prove similarly productive and useful in defining and predicting political attitudes and behaviors. If this utility in predicting different political outcomes of interest is demonstrated, such that sex predicts some variables better while gender predicts others more effectively, then the utility of the variable is only heightened through greater accuracy in description. Clearly, such specification cannot solve every problem that might arise in seeking to explain or predict the influ-

ence of sex, gender, or preference on political outcomes, but greater clarity in variable specification can lead to greater precision in modeling and prediction.

More important, such categorization can help illuminate the diversity of sexual and gender experience and expression, and allow many individuals to feel less isolated, thus encouraging the emergence of social groups that can agitate for the proper allocations of rights due all individuals, regardless of their sex, gender, orientation, creed, age, race, or ethnicity. Increasing recognition of some of the biological bases of gender identity and sexual orientation can hopefully enhance tolerance and encourage and strengthen democratic diversity, inclusion, participation, and freedom of expression. Disseminating such information can create more widespread public acknowledgement and acceptance of different identities and potentially help reduce discrimination and improve public policy.

Questions regarding sex, gender, and sexual orientation, and the political provocations and pitfalls that surround them, invoke quintessential issues of identity, equality, and human rights. In public debates surrounding these topics, including those involving reproduction and homosexuality, decision-makers and other elites often find it politically profitable to engage in debates that center around arguments about the ostensible immutability or choice involved in these phenomena. For example, many right-leaning politicians suggest that being gay represents a conscious choice to engage in “deviant” behavior, while many left-leaning politicians consider sexuality to be a manifestation of freedom and self-expression. These and similar positions often unconsciously or strategically conflate notions of sex, gender, and sexual orientation in ways that only serve to divide and confuse, rather than enlighten and comfort. But if we care about human rights, decency, and the value of individual identity and freedom, we should strive to replace manipulative rhetoric with respectful and responsible intellectual discourse. Political scientists can strive to properly inform leaders and the public about the science underpinning these notions, as well as work to diminish public rhetoric that often appears designed to inflame the public to achieve personal political gain. Some will refuse to believe or accept scientific findings or will experience difficulty overcoming their preconceived beliefs. Nonetheless, we believe that one of the critical functions of scholarship is its ability to make important information available to the public, including elites, in hopes of alleviating suffering where possible.

One way that this aim can be accomplished is by highlighting and celebrating the individual differences that bring such richness and texture to our humanity and by disseminating information about the multiple biological and social pathways that develop and define gender and sexual orientation in ways distinct from biological sex. Biology and environment do not represent entirely separate pathways, and behavior does not emerge solely from personal, volitional choice. Individuals do not choose their sexual orientation any more than they choose their sex at birth (although parents may seek to choose the sex of their children, with untold damage, precisely because of some of the social prejudices and biases we seek to ameliorate with the arguments presented here). To be clear, we note that sexuality is an extremely complex process that encompasses a wide variety of social and biological processes and practices; genes or hormones alone never determine a given outcome. Rather, a combination of genetic, epigenetic, and environmental processes affect the likelihood of a person

developing a homosexual or heterosexual identity. The complexity of this development, which clearly exists along a continuum, suggests why some individuals may find their sexuality to be more malleable than others. A more widespread recognition of the vast variety of possible identities should serve to strengthen the body politic. The foundation of the democratic experiment rests on the idea that individuals can respect each other's differences and engage in a give and take of mutual compromise to achieve the best outcome possible for the greatest majority of individuals. Oftentimes, in reality, this dream dies hard, as those who recognize difference seek to kill its manifestation and expression rather than find ways to understand, tolerate, and benefit from such difference. Diversity can produce strength (Page 2007), but only when all types are allowed a place at the democratic table of discourse and made to feel welcome, valued, and acknowledged for the unique benefits they bring to a collective society. Conveying this message properly can help reduce the stigma that often accompanies differing gender roles as the public begins to conceptualize gender, like sexuality, as resting on a biological foundation independent of personal choice. Political scientists should report and communicate the literature surrounding the differences between sex, gender, and sexual orientation to produce a more positive outcome for a diverse public operating within a democratic context. ■

NOTES

We would like to thank Kristen Monroe and Aaron Belkin for their helpful feedback on this article.

1. Current estimates suggest that about 1 in 100 individuals possess chromosomes consistent with both sexes (Blackless et al. 2000).
2. We thank Aaron Belkin for very helpful feedback and discussion on this and other points in this article; all mistakes or misrepresentations remain our own.

REFERENCES

- Bem, Sandra. 1981. *Bem Sex-Role Inventory: Professional Manual*. Palo Alto, CA: Consulting Psychologists Press.
- Blackless, Melanie, Anthony Charuvastra, Amanda Derryck, Anne Fausto-Sterling, Karl Lauzanne, and Ellen Lee. 2000. "How Sexually Dimorphic Are We? Review and Synthesis." *American Journal of Human Biology* 12: 151–66.
- Butler, Judith. 1990. *Gender Trouble: Feminism and the Subversion of Identity*. New York: Routledge.
- Garcia-Falgueras, Alicia, and Dick F. Swaab. 2010. "Sexual Hormones and the Brain: An Essential Alliance for Sexual Identity and Sexual Orientation." In *Pediatric Neuroendocrinology*, ed. S. Loche, M. Cappa, L. Ghizzoni, M. Maghnie, and M. O. Savage, 22–35. Basel: Karger.
- Hamer, D., S. Hu, V. L. Magnuson, N. Hu, and A. M. Pattatucci. 1993. "A Linkage between DNA Markers on the X Chromosome and Male Sexual Orientation." *Science* 261 (5119): 321–27.
- Hatemi, Peter K., R. McDermott, J. M. Bailey, and Nicholas Martin. Forthcoming. "The Different Effects of Gender and Sex on Vote Choice." *Political Research Quarterly*.
- Lippa, Richard. 2005. *Gender, Nature, and Nurture*, 2nd ed. Mahwah, NJ: Lawrence Erlbaum.
- Page, Scott. 2007. *The Difference: How Diversity Helps Create Better Groups, Firms, Schools and Societies*. Princeton, NH: Princeton University Press.
- Redlawsk, D., and Caroline Tolbert. 2010. "Attitude Shift in the Gay Marriage Debate." Working paper, University of Iowa.
- Urdu, J. Richard. 2000. "Biological Limits of Gender Construction." *American Sociological Review* 65: 443–57.