

Gender, Masculinity, and Reproduction: Anthropological Perspectives

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Recently, men's reproductive health has become an explicit focus of population and development programs and policies. Anthropological research suggests that understanding men's reproductive health needs and problems requires investigation of both local biological and cultural variation. Taking a biosocial perspective on human reproduction, we examine contributions from biological and cultural anthropology concerning men's reproductive health. Biological anthropologists have demonstrated important variations in men's reproductive physiology. Cultural anthropologists have explored intersections between masculinity and health, men's experiences of fatherhood, and reproductive problems such as infertility. We conclude with a discussion of the implications of an anthropological perspective for future research on men's reproductive health.

Key Words: anthropology, reproduction, reproductive health, masculinity, local biologies

Since the landmark 1994 International Conference on Population and Development in Cairo, Egypt, population and development programs and policies have increasingly adopted a "reproductive health" approach. Criticizing earlier initiatives for focusing on demographic goals such as population limitation rather than health needs, a coalition of feminist and developing country stakeholders advanced a platform that emphasized reproductive health, broadly defined, as a basic human right, rather than as a means to achieve population control through increasing contraceptive prevalence rates. As a result, reproductive health has come to refer to a spectrum

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of health concerns involving individual sexual and reproductive well-being and resting directly on a foundation of reproductive rights, including the right to have all sexual experiences be wanted, the right to control the timing and conditions of pregnancy, and the right to achieve healthy pregnancy, birth, and child health outcomes (Petchesky, 2000).

Several antecedents influenced this shift to a reproductive health paradigm. First, classic demographic transition theory has failed to explain why population growth continues, often in the face of other indicators of economic development and despite falling fertility rates in many countries (Greenhalgh, 1995; Handwerker, 1986). Second, work by feminist groups has shown how population and development interventions that focus on demographic goals as a means to economic and social development often disregard or negatively impact the health of women (Dixon-Mueller, 1993a). In particular, feminists in developing countries have pointed to major imbalances in reproductive health outcomes in First and Third World countries, suggesting the need to address population control within the context of holistic, comprehensive reproductive health care services (Corrêa & Reichmann, 1994). Finally, the global HIV/AIDS pandemic has caused a fundamental rethinking of reproductive health programs, shifting attention from population control to sexual behaviors and practices that affect the transmission of sexually transmitted infections (STIs) among and between men and women (Dixon-Mueller, 1993b; Parker, Barbosa, & Aggleton, 2000; Vance, 1991).

This shift to a reproductive health model has had important consequences for the ways in which men are conceived of as participants in reproductive and sexual health. On the one hand, men are seen as important influences on the reproductive health of others. These influences are numerous and may involve direct effects, such as sexual violence or STIs, as well as more indirect effects, such as the mediation of resources available during pregnancy and childbirth. Because most human societies privilege men in both the private and public domains, men also structurally affect the reproductive health of others in ways that women do not, namely through the positions of authority that they occupy, the resources that they control, and the sexual and reproductive norms that they support or subvert.

Nonetheless, men have traditionally not been included in interventions targeting maternal-child health, contraceptive use, or other reproductive health problems (Columbien & Hawkes, 2000; Ndong, Becker, Haws, & Wegner, 1999). Men's lack of inclusion in these programs has been a result of a combination of factors. For one, limited resources have traditionally been focused on women, who obviously play a more direct role in pregnancy and childbirth and who are often excluded by men from access to existing resources. In particular, women's access to birth control and prenatal and delivery care are often seen as key avenues for the empowerment of women. Second, assumptions about men's lack of involvement and interest in reproductive health have also militated against men's inclusion in reproductive health programs. Finally, ideological issues have also influenced research agendas; for example, lack of research and development on male contraceptives stems in part from assumptions about men's lack of desire for contraceptives and about the nature and importance of male versus female sexuality, including sexual satisfaction.

Importantly, the reproductive health model promoted post-Cairo emphasizes the reproductive health needs of *all* individuals, including men. Framing reproductive health in the language of human rights (Cliquet & Thienpont, 1995), reproductive health programs that have emerged from the Cairo and Beijing platforms now address male reproductive health as a fundamental human right. More specifically, several areas have been identified as important to consider in comprehensive approaches to men's reproductive health needs; these include male contraceptive technology; reproductive tract infections and sexually transmitted diseases; male infertility and sexual dysfunction; male adolescent reproductive health; male reproductive aging; and occupational and environmental effects on male reproductive health (Mundigo, 1998; Wang, 2000).

However, given the broad definition of reproductive health stressed in these conference platforms, this list of concerns is largely biomedical in nature, potentially of more concern to health care providers than to individual men. Furthermore, this biomedical focus may prove inadequate to capture the range of issues men themselves may include in reproductive health definitions (Collumbien & Hawkes, 2000). Indeed, while the reproductive health needs of men have finally been placed squarely on the research and policy agendas, there are still many unanswered questions about what constitutes male reproductive health, as well as the best ways to achieve it.

Increasingly, reproductive health policymakers (and their critics) have recognized the need for qualitative research to improve understandings of male involvement in reproductive health, as well as men's reproductive health problems (Drennan, 1998; Mbizvo, 1996; Presser & Sen, 2000). One area of particular interest involves the cultural determinants of reproductive health. It is clear that culture, as a predominant system of beliefs and practices shared by a group, affects reproductive health outcomes. Discussion of culture in reproductive health initiatives to date has tended to focus on the beliefs and practices concerning the origin and treatment of reproductive health problems, particularly as they present barriers to biomedical intervention.

Because of its long tradition of research among non-Western populations, as well as its qualitative research strategy of ethnography, the discipline of anthropology has been seen by many as a means to investigate local reproductive norms and problems, as well as to implement a gendered perspective that does not assume universal meanings of masculine and feminine. Anthropology has, to date, been characterized as a discipline suited to complement biomedical health interventions with qualitative knowledge that will improve the deployment of those interventions.

Anthropology is rapidly growing in this complementary role to international health efforts (Sargent & Brettell, 1996; Vlassoff & Manderson, 1998). Nonetheless, anthropology has more to offer than local knowledge in the area of reproductive health. For one, medical anthropologists have often taken a critical stance toward international health efforts (Kleinman, 1978; Lane & Rubinstein, 1996; Morgan, 1993), including men's incorporation into reproductive health interventions (Collumbien & Hawkes, 2000). From this critical medical anthropological perspective, culture influences the very character of biomedicine, both as a Western discipline and as a form of health care now found in many non-Western sites around the globe

(Inhorn, 1994). Culture influences not only how individuals are treated for their reproductive health problems within given systems of medicine, but also how individuals living within local communities define and experience their reproductive health.

This paper will explore how anthropology, as a humanistic social science, is particularly well suited for assessing men's reproductive health needs, through its emphasis on both the specificity and variability of those needs within local cultural contexts. Relying on a biosocial perspective, anthropologists who focus their research on reproduction generally argue that local biologies, as well as local cultures, influence men's reproductive health definitions and needs. Understanding men's reproductive health needs requires framing men's health and well-being within local contexts, the traditional focus of anthropology.

In this paper, we examine the contributions of both biological and cultural anthropology to furthering our understanding of men's reproduction and reproductive health within an explicitly biosocial framework. In the first half of the paper, we examine recent empirical work in physical/biological anthropology, which has shown important variations in reproductive physiology within and between groups of men in different environmental contexts. This work, we suggest, indicates the need for further consideration of "local biologies," first defined by Lock (1993) as "an ongoing dialectic between biology and culture in which both are contingent." In exploring the cultural meanings surrounding menopause in Japan and North America, Lock suggested that Japanese women may experience menopause differently from North American women, in part because of higher average levels of phytoestrogens in their diets, which may serve to mitigate the effects of estrogen decline at the climacteric. Indeed, because human reproductive physiology is under endocrinological control, human reproductive ecologists have come to recognize that both male and female reproductive physiologies are sensitive to local environments. Thus, clearly, local biologies must be considered when attempting to assess men's various reproductive health needs around the globe.

In the second half of the paper, we turn to the contributions of cultural anthropology, with its ethnographic tradition of in-depth, field-based research and its central concept of culture. Cultural anthropologists have argued that gender is a key organizing principle of social relations, influencing both sex and reproduction. As part of this discussion, we consider recent anthropological research on men and masculinity, much of which falls outside of current conceptualizations of men's reproductive health, but which nonetheless forms part of the matrix of relations influencing men's (and women's) reproductive well-being.

HUMAN REPRODUCTION AS A BIOSOCIAL PROCESS

In addition to its social nature, reproduction is fundamentally biological, with necessary physiological requirements for its accomplishment and relatively well-defined biomedical parameters marking reproductive health and illness. Human gestation usually lasts nine months, with delivery before or after that point potentially indicating a reproductive health problem. However, as discussed below, some parameters of reproductive health exhibit variation in different human populations for men as well as women. Furthermore, different human groups subjectively value reproduc-

tive health states differently; for example, they may label different collections of symptoms differently as reproductive illnesses, or they may attribute different causes to similar reproductive health problems.

A central argument is that human reproduction is a biosocial process (Harris & Ross, 1987; Panter-Brick, 1998). It is dynamic and changes over time, and it occurs at the intersection of human biology, ecology, and social and cultural context. Beyond the (current) necessity for the gametes of two differently sexed individuals—one male and one female—to interact in procreation, human reproduction is an inherently biosocial process in many ways. Trevathan (1996) has argued that because of the shape of the birth canal and female pelvis, human reproduction has evolved to require assistance from another individual during delivery. While caregiving practices during and after pregnancy vary—from the valuation of stoicism and solitary delivery (Sargent, 1989) to the medicalized childbirth of many Western societies (Davis-Floyd, 1992)—other individuals besides the biological mother are usually involved in reproduction in all societies, and in some societies, reproduction is a socially collective effort.

Indeed, social collectives—households, lineages, and states—derive power and resources from the control and administration of reproduction. For example, in the Middle East and in many other patrilineal, pronatalist societies around the world, households and extended families consider children to be a source of both labor and family power (Inhorn, 1996; Inhorn & van Balen, 2001). Thus, childbearing is culturally mandated and infertility despised (Bharadwaj, 2001; Feldman-Savelsberg, 1999; Inhorn, 1994, 1996, 2003a). Furthermore, different levels and mechanisms of collective social control have had different effects on reproductive health. For example, the focus of states on the vaccination of infants is a way of ensuring labor forces and lowering national health costs, although this focus often diverts limited resources from other health programs. Similarly, states may or may not invest in fertility-limiting technology in an attempt to control women's labor, including preventing them from occupying certain positions because of their reproductive status or potential (Bandarage, 1997).

Apart from the more direct aspects of power related to control of labor and resources, biological reproduction occupies a key position in the reproduction of ethnic and other social groups. Anthropologists have emphasized the centrality of kinship as an ideological concept organizing social relations within groups, as well as the regulation of ethnic boundaries through the control of miscegenation (Bledsoe, Guyer, & Lerner, 2000; Delaney, 1991; Schneider, 1968; Yanagisako & Delaney, 1995). These organizing structures of kinship prove important for families and lineages, as well as for political entities such as the state. In a powerful example, Das (1995) examines the attitude of the Indian state toward abducted women and children born of sexual violence following the violent creation of Pakistan. She argues that, while great variability existed in the "practical kinship" of community and family norms regarding these women and children, including in many cases acceptance and assimilation into the community, a patriarchal concept of Indian "national honor" drove the state's policy of forced repatriation.

VARIATION IN REPRODUCTIVE PHYSIOLOGY AND BEHAVIOR

While the importance of reproductive physiology is clear in a consideration of reproductive health, biological anthropologists have suggested that a biomedical perspective may be inadequate to explain reproductive physiology within a larger ecological context. Biological anthropology has made important contributions to understandings of reproductive health primarily in two areas: reproductive ecology and behavioral ecology. Reproductive ecologists investigate reproductive functions and procreative decisions primarily as they are influenced by ecological factors, including nutrition, seasonal variations, and workload. Such research has shown patterns in female reproductive physiology that vary by ecological context. For example, declining age at menarche in Western populations has been related to improved nutritional adequacy and lowered workload in adolescence (Wood, 1994). Furthermore, rising rates of ovarian cancers in Western populations may be related to increased lifetime exposure to ovarian hormones. Such increased hormonal exposure is due to fewer, widely spaced pregnancies and shorter periods of breastfeeding, both leading women to ovulate more frequently over the course of their lives (Ellison, 1999).

Reproductive ecologists' research on male reproductive physiology has begun to examine variation between groups of men (Campbell & Leslie, 1995). For example, declining levels of testosterone in men as they age have been seen as a reproductive health problem in the West, and thus are a common topic of discussion in popular men's health literature, where testosterone decline is linked to age-related changes in frequency of sex, sex drive, muscle mass, and general function. Available data from non-Western groups suggest that the trajectories of decline in testosterone levels with age vary considerably across populations, with non-Western populations showing lower peak lifetime levels and more gradual declines (Bribiescas, 2001; Ellison et al., 1998). For example, Worthman (1999) found that men in Nepal attain much lower peak lifetime levels of testosterone in comparison with American men, but do not exhibit significant declines in testosterone with age. The implications of such variation in lifetime exposures to testosterone for health risks such as prostate cancer are presently unclear, but warrant further investigation (Bribiescas, 2001).

Examining the ecological influence on human reproductive choices has been the work of human behavioral ecologists, whose research is devoted to the ecological context in which human reproductive decisions and behaviors occur. In investigating reproduction within human systems of marriage, behavioral ecologists stress differences in male and female reproductive behavior produced by natural selection. They argue that: (1) men and women will tend to pursue different reproductive strategies (e.g., beginning and length of reproductive career, timing and frequency of mating, number of partners, and investment in offspring (Borgerhoff Mulder, 1992, 2000); (2) individual men will pursue variations on this generalized pattern of male reproductive strategy, differing from one another at different points over the course of their lives (Hill & Hurtado, 1996; Worthman, 1995); and (3) differences in mating strategy, fertility, and mortality between groups will be associated with ecological constraints, such as resource availability and distribution (Hill & Hurtado, 1996; Hill & Kaplan, 1999), which ultimately affects group subsistence patterns (Marlowe, 2000; Sellen & Mace, 1997, 1999). Behavioral ecologists have made important con-

tributions to understandings of why certain marriage systems arise and persist in conjunction with subsistence mode—for example, why polyandry (marriage of one woman to multiple men) exists in only one percent of human societies, including Himalayan groups, where land shortage makes households viable only with multiple males. Such a perspective proves important for understanding conditions under which socially imposed monogamy (such as by religious institutions or states) may not lead to sexual or reproductive exclusivity.

While debates exist over the relevance of evolutionary pressures to explanations of contemporary human reproductive patterns, all of the aforementioned approaches highlight the fact that meaningful differences exist in the reproduction of men and women, of different men, and of men over the course of their lives. Even small differences in reproductive patterns can have profound effects on reproductive health outcomes; for example, different mean numbers of sexual partners per year between men and women can affect the incidence rates of an STI (Finer, Darroch, & Singh, 1999), rates that are also affected by differences in patterns of sexual behavior between generations of men (Olayinka, Alexander, Mbizvo, & Gibney, 2000). In summary, insights from biological anthropology regarding men's reproductive physiology and behavior have been used to demonstrate physiological variation between and within populations and to describe local conditions under which men are more likely to invest in their partners and their children. Rather than rigidly determining reproductive behavior or health, human biology exhibits flexibility in ecological context. Furthermore, biological anthropological research suggests the importance of gender, and particularly gender relations between men and women, as having a profound impact on reproductive health outcomes, including the well-being of women and children.

GENDER PERSPECTIVES ON MEN AND MASCULINITY

One of the more important shifts emerging since the Cairo and Beijing conferences has been the explicit adoption of the concept of gender as an important determinant of reproductive health. Borrowed from linguistics and deriving from work in feminist theory and humanistic social sciences such as anthropology, the concept of gender was originally used to describe aspects of behavior and identity usually ascribed to either men or women; such attributes could not be determined by biological sex, and thus were referred to as gender roles and identities (Kessler & McKenna, 1978). However, the concept of gender has been extended by some theorists to describe a set of power relationships loosely organized around biological sex and related to (but not defined by) access to material resources and social status (Butler, 1990). In reproductive health research more specifically, the concept of gender has been used to account for the different kinds of illnesses experienced by men and women (Lorber, 1997; Moynihan, 1998) and the inequities in health status between men and women, which are often attributable to power differentials (Sargent & Brettell, 1996).

Ironically perhaps, this “gender lens” has only recently been focused on men, even though men have long been at the center of social scientific investigation and health research, often to the exclusion of women (Inhorn & Whittle, 2001; Rosaldo, 1974). Only recently have men as men—that is, as gendered agents, with beliefs,

behaviors, and characteristics associated with but not dependent upon biological sex—become subjects of theory and empirical investigation within the social sciences (Connell, 1987, 1995; Seidler, 1994), including in anthropology (Bourgois, 1995; Gutmann, 1997; Lancaster, 1992). While no single framework for the study of men holds, attempts have been made to explain general patterns in male identity and behavior. For example, the notion of “masculinity” has been used to refer to a differentiated set of roles and behaviors undertaken by men and involving ideas about self as they relate to these roles. More recently, theorists have stressed that individual men do not simply fill static roles and identities; rather, they must perform masculinity as an ongoing process that draws on existing sets of behaviors and ideas, but also allows for innovation and change over time. Gilmore (1990), for example, argues that masculine identity and roles are more tenuous than feminine identities and roles, and thus must be performed more vigorously. According to Gilmore, this need for greater performance of masculinity is the result of two realities. First, women can demonstrate their femaleness through reproduction, while men cannot demonstrate such a concrete realization of gender, either relative to other men or to women. Second, throughout the world women in family structures raise boys. But as boys grow to become men, they must differentiate themselves from that feminine world, a separation young women need not make. However, such an argument is more descriptive than explanatory. Furthermore, it homogenizes men, thereby tending toward a unitary definition of masculinity defined in opposition to femininity.

Most recently, social scientists have pointed to the plurality of definitions of masculinity, even within a single social group. Masculinity is characterized as a plural set of gender identities or *masculinities* (Connell, 1995), which are related to but not uniquely determined by biological sex. Given that there are different ways of being a man, Connell, for one, has argued that masculinities are differently valued. “Hegemonic masculinities” are ideal types, which, while varying cross-culturally, exhibit general patterns. Hegemonic masculinities often concentrate ideal masculine attributes, including wealth, attractiveness, virility, strength, heterosexuality, and emotional detachment. “Subordinate masculinities,” on the other hand, embody some of the opposites of these ideal attributes. Models of hegemonic masculinity, or ideal masculine behavior and identity, may lead to distress for many men who are unable to achieve these ideals. Moreover, men may be conflicted about their desire to achieve hegemonic masculinity in ways that may motivate and affect their reproductive health behavior.

Connell notes that gender tends to organize three distinct but related domains—namely, division of labor, exercise of power, and objects of desire. These three domains directly relate to men’s reproductive health. Gendered divisions of labor affect men’s differential access to work and income, as well as structure their reproductive risks through occupational exposures. Men’s power in many societies ranges from institutionalized connection of masculinity with authority to the legitimization of sexual and reproductive violence. Finally, gender informs systems of desire, influencing the kinds of bodies that are deemed desirable and the conditions under which they are desired.

Indeed, approaches to men’s involvement in reproductive health must account for broader social patterns that structure men’s attitudes and behaviors regarding sex

and reproduction. Men's effects on the reproductive health of others are diverse and often complex, ranging from direct effects, such as STI transmission and sexual violence, to mediation of resources available for women and children's health needs, to structural asymmetries that privilege men and maleness in arenas such as contraceptive technology development and infertility treatment. These influences may cross generations; with the onset of HIV/AIDS, researchers increasingly direct attention toward predictors of sexual risk behavior, including childhood abuse. Epidemiological studies suggest that men abused sexually during childhood are more likely to engage in risky sexual behavior than their female counterparts (Windom & Kuhns, 1996). Men who report unwanted sexual activity in childhood also seem more likely to participate in risky behaviors in general (Tyler, 2002); these behaviors, such as substance abuse, may themselves increase HIV risk. Also, men who have sex with men have shown increased sexual-risk taking associated with a history of childhood abuse (Paul, Catania, Pollack, & Stall, 2001), as have men at high risk for HIV transmission (Dilorio, Hartwell, & Hansen, 2002). Handwerker (1989) has applied an anthropological perspective to the question of childhood sexual abuse and its connections with later sexual risks, modeling these risks on gender differences in power between parents. In a survey of men and women in Barbados, he found patterns within power relationships between men and women, with some men exploiting women's economic dependence for sex, childbearing, and household services and authority. He argues that children growing up in such contexts begin their sexual careers earlier and remain sexually mobile into their thirties. Importantly, men who were physically, emotionally, and/or sexually abused as children, controlling for other important demographic variables, are significantly more likely to spread STIs.

As suggested by this research, men themselves experience the negative reproductive health effects of what Rubin (1984) has called the "sex/gender system," which roots gender not only in individual behavior, but also in social institutions and cultural norms. For example, the use of steroids for muscle building can be related to men's acquiescence to a sex/gender system in which size, athletic performance, and muscle mass signal superior masculinity. Many bodybuilders use steroids even when they know the use of such hormones is linked to health risks like testicular cancer (Klein, 1995). It is important to point out that pursuits such as bodybuilding are not straightforwardly hegemonic or uniformly oppressive. Men and women actively participate in decisions about such body modifications and may feel empowered through their decisions, as has been documented for some women and cosmetic surgery (Davis, 1995). However, in the U.S., such decisions have increasingly become pathological obsessions, as men become more and more subject to unattainable body ideals. Referring to an "Adonis Complex," Pope and colleagues (Pope, Phillips, & Olivardia, 2000) have suggested that men in the U.S. may feel threatened by women's entrance into traditionally male arenas of power, finding in their bodies the only way to "be a man," but driving compulsive exercise and dieting regimes. At the same time, they note that many men may suffer in silence over body dysmorphia disorder (BDD) and fail to seek serious medical attention.

MASCULINITY AND REPRODUCTIVE HEALTH

Research in fields such as medical anthropology and medical sociology has begun to draw connections between gender and men's health (Browner & Sargent, 1996; Doyal, 2000; Krieger & Fee, 1994; Lorber, 1997; Moynihan, 1998; Sabo & Gordon, 1995; Sargent & Brettell, 1996; Zeidenstein & Moore, 1996). In general, such approaches argue that numerous aspects of health, ranging from accidental deaths to cardiovascular disease, are conditioned not only by differences between male and female physiologies, but also by the culturally specific, socially constructed gender roles and identities that men and women perform. Courtenay (2000) has argued that there is a reciprocal relationship between masculinity and health, stressing that men's health problems are often produced by men's enactment of masculinity, and that cultural norms and expectations reinforce these enactments. In addition, some researchers have observed that certain aspects of health and illness help define hegemonic masculinity (Sabo & Gordon, 1995). For example, certain markers of health are emphasized over others (e.g., men's muscle mass), markers that may not fit biomedical models for good health (Klein, 1995). Moreover, illness in general may be characterized as unmasculine, and some disorders, such as infertility and erectile dysfunction, are seen as particularly emasculating (Inhorn, 2002, 2003b; Webb & Daniluk, 1999). In some cases, men's health disorders, such as benign prostatic hypertrophy (BPH), can be characterized as "culture-bound syndromes," given differential (and often profitable) emphasis in diagnosis and treatment by doctors and pharmaceutical manufacturers (McDade, 1996).

Not surprisingly, many of the aspects of health most closely tied to masculinity involve reproduction and sexuality. Masculinity affects reproductive and sexual health insofar as sexual behaviors play key roles in defining gender roles and identities (Dixon-Mueller, 1993b). Gender approaches stress the culturally constructed meanings of sexual practices (Vance, 1991), in the main demonstrating that other- or same-sex sexual behaviors are not isomorphic with universal definitions of hetero- or homosexual, straight or gay identities (Herdt, 1997; Lancaster, 1992). In addition, attention has been drawn to the importance of particular sexual behaviors—many of them unhealthful for both men and women—for the performance of masculinity. Often listed among such practices are sexual promiscuity (Farmer, Connors, & Simmons, 1996) and avoidance of contraceptives (Ward, Bertrand, & Puac, 1992; Wingood & DiClemente, 1998). Such behaviors are theorized as being in a dialectical relationship with masculinity, with the behaviors both conditioned by and part of the basis for masculine identities and roles.

Additionally, cultural constructions of sexual behavior and sexual disorders shape the ways in which individual men experience their masculinity. Anthropologists have demonstrated that culture-bound syndromes such as semen depletion (Botéro, 1991; Herdt, 1997) or erectile dysfunction (Inhorn, 2002a; Potts, 2000) depend not only on culturally specific understandings of human reproductive physiology, but also on a phallogocentric perspective on human sexuality that de-emphasizes other forms of male sexual expression and pleasure.

Given the connection of masculinity to reproduction, interventions that target men's involvement in reproductive health, such as the promotion of condoms and

sexual responsibility, must cope with sexual behaviors as they are embedded in masculine identity roles. Men and women often exhibit different patterns of sexual behavior, and similar patterns of sexual behavior affect men and women differently. In many societies, men's sexuality is sanctioned and encouraged, while women's sexuality may be closely monitored, constrained, and condemned (Nencel, 1996; Pyne, 1994). For example, in researching relationships in rural Haiti, de Zalduondo and Bernard (1995) argue that non-conjugal sexual relationships between men and women are not the product of men and women's individual or dyadic choices, but rather reflect their position in a political and moral economy. On the one hand, men are expected to have "flings," and women are expected to resist and ask for economic recompense. While women do not depend completely on men economically, actually outproducing men in the fragile local economy, the returns on women's labor over time are small relative to men's returns, the latter being important in economic emergencies. Thus, non- and extra-conjugal sexual relationships make possible women's economic survival, while at the same time putting them at greater risk for sexual harm (e.g., STIs) and for the birth of children outside of stable unions. The authors conclude that "far from being idiosyncratic results of male and/or female non-compliance to sexual and conjugal norms, non-conjugal sexual relations are predictable consequences of the interlocked sexual, economic, and moral premises that underlay male and female gender roles and men's and women's expectations regarding conjugality" (p. 151).

Such research suggests that the connection between sexuality and reproductive health cannot be limited to an examination of sexual orientation or behavior alone, but must also account for shifting notions of masculinity, femininity, and gender relations within larger political, economic, and moral contexts. Gender organizes a system of health. For example, gender structures, differently across cultures, what counts as a healthy male body, what physical ideals men should pursue, and what illnesses men should fear, ignore, accept, or endure. Moreover, notions of hegemonic masculinity do not refer simply to differences in ethnicity or socioeconomic status, but also to health and fitness—ideals that may or may not coincide with overall men's well-being. Men's reproductive health offers a particularly penetrating lens through which to explore this mutually reinforcing, but not necessarily health-promoting, relationship between gender and health.

MEN'S PRONATALISM AND FATHERHOOD

The relationship between men's intentions and desires for conception, pregnancy, childbirth, and fatherhood have been relatively poorly studied and hence are little understood, especially in international contexts. A male partner's intentions and desires have been shown to affect the timing of first pregnancy, women's desires and prospects for becoming pregnant, partners' feelings upon learning of a pregnancy, and subsequent changes in women's evaluation of pregnancy wantedness both during pregnancy and in the postpartum period (Joyce, Kaestner, & Korenman, 2000; Zabin, Huggins, Emerson, & Cullins, 2000). Indeed, understanding male partners' effects on intendedness of pregnancy may be important in explaining shifts in women's completed fertility rates around the world.

Anthropological research in a variety of settings has shown that men's desires for large families in pronatalist community settings marked by high fertility rates may be powerful factors in women's fertility decision-making, effectively militating against fertility limitation campaigns. Furthermore, men's pronatalist desires are clearly connected to hegemonic concepts of masculinity in many societies. Examples from Latin America demonstrate this most clearly. The concept of machismo operates in variable ways throughout Latin America, affecting men's behavior regarding paternity and ultimately women's childbearing. According to Browner (2000), "In Colombia it meant that a man who impregnates a woman had the right to deny paternity, abandon the woman, or insist on abortion. In contrast in the Oaxacan village [in Mexico], it generally meant that men imposed their desire for large families on their wives" (p. 783).

In urban areas of Mexico, poor men may be guided by national stereotypes of masculinity and *machismo*, but must also reconcile themselves to the realities of life in poor barrios, which has required them to cooperate, both politically and economically, with women for survival, including through limiting family size. Indeed, Gutmann's (1996) work on changing concepts of masculinity in Mexico City provides several extended examples of men's attempts to make meaning of their experiences of fatherhood under difficult local economic and social conditions. Gutmann argues that some activities, such as work outside the home and childcare, have become less gendered, that is, less associated with either men or women, over time. Cross-cultural studies have shown that, generally speaking, men tend to spend between 25 and 35 percent of the time that mothers do interacting with young children (Lamb, 1987). However, in societies where men are involved in childcare, men are less inclined to display hypermasculine roles and aggressive competition (Coltrane, 1994). A psychodynamic explanation holds that boys and adolescent males, raised by men and women, have less need to differentiate themselves from women as they mature (Gilmore, 1990).

Generally speaking, men's fathering behaviors do not center on an investment in childcare during infancy and early childhood. Rather, men's investments as fathers are often tied to the concretization of access to sexual or economic resources from their female partners, their realization of broader social obligations to produce children for their families or communities, and their interest in the child's potential as an adult member of a social group (Browner, 1986; Greene & Biddlecom, 2000; Guyer, 2000). Such diverse men's interests in fatherhood are linked to, but not captured by, a Western perspective on fathers that emphasizes, for example, genetic relationships and economic responsibility, or which is based on negative examples of what fathers should not be (abusive, absent, adulterous, irresponsible).

Scholarly interests in the effects of individual fathers on children and families rose in the 1970s, with an emphasis on father's participation in infant and childcare, bonding between father and children, preference for children, and effects on child development. Five fathering functions were thus characterized and described as endowment, provision, protection, caregiving, and formation. In reviewing this literature on fathers, Tripp-Reimer and Wilson (1991) suggest that it has led to two lines of anthropological investigation on father-child relationships: (1) ethological primate

studies in biological anthropology; and (2) culture and personality studies in cultural anthropology.

In considering male parenting across species, primatologists have emphasized mating patterns and potential for male investment in child survival within social contexts. Among solitary primates such as orangutans and single-male, multi-female grouping primates such as gorillas, males have been observed to kill the offspring of other males. Orangutans are the only non-human primate in which males engage in forced copulations with females. Among multi-male, multi-female grouping primates such as baboons and chimpanzees, however, males may invest in the offspring of other males. Primatologists such as Smuts and Gubernick (1992) have demonstrated the importance of non-human primate social relations resembling friendship between males and females in mediating sexual access as well as influencing maternal and infant health. They argue that male investment in infants is often not determined by genetic paternity, but instead reflects a male's social relationship with the infant's mother and the possibility for future mating opportunities. Non-human primate studies suggest that rather than a single model of primate paternity, a range of paternal behaviors exists related to broader social relations. Such findings from ethological primate studies are important for studies of human fathering in that they caution against simple biological determinism.

Cultural anthropologists, too, have emphasized the importance of social relations, such as division of labor, social status, and household arrangements, in determining the nature of family life and child well-being. In particular, the cultural and personality school of anthropology has emphasized the effects of early childhood experience with parents, as determined in part by these social structures, in determining adult behavior. Such a perspective focuses on the way culture reproduces itself, suggesting that parenting behavior is in part determined by cultural norms and values, which are then impressed upon children at early ages in ways that will affect their adult lives. While the culture and personality perspective has been challenged as overly deterministic, the perspective has made valuable contributions in understanding cross-cultural patterns of fathering, such as the effects of father absence on offspring, ceremonies of male initiation, and male segregation at puberty (Tripp-Reimer & Wilson, 1991).

While very different, these diverse anthropological perspectives stress that father's relations with mothers and children are influenced by social structural factors. Fatherhood, and especially responsible fatherhood, will take on different meanings when different social structures prevail. Even within Western concepts of fatherhood, historians trace ideological changes over time. Economic shifts in the late 18th and early 19th centuries changed the role of fathers as collaborators within households in which they were seen as rulers to supporters of families who worked outside the home; more recent changes in the U.S. include a shift from single-income fathers as bureaucratic managers to more cooperative models as fathers face additional responsibilities in dual-income families (May & Strickwerda, 1992).

Yet, such models represent normative, hegemonic, idealized, and potentially minority experiences of fatherhood. For the most part, the emphasis in research on fatherhood has been on the effects that fathers have on others, rather than on the effects of fathering *on* fathers (Tripp-Reimer & Wilson, 1991). More recent research

on fathers emphasizes how local contexts, along with broader ideological underpinnings, combine with men's individual attempts to define fatherhood experiences and expectations for themselves. One study of expectant fathers in the U.S. reported that, while men wanted to be involved in pregnancy, childbirth, and parenting, they found that they had few models of men as parents to guide them, and they struggled on their own for relevance as fathers (Jordan, 1990). Townsend (2002) examines a highly uniform cultural norm of American fatherhood—part of what he calls the “package deal”—which is composed of emotional closeness, provision, protection, and endowment. This cultural norm, he argues, provides a lens of meaning and anticipation for men's often contradictory experiences of parenting. In interviews with men graduating high school in 1972 in Silicon Valley, he examines “the composition of, and internal contradiction within, a cultural model of successful male adulthood and fatherhood (20) ... to understand how [men] construct themselves as men and fathers in order to better understand their actions” (28).

Such studies have, for the most part, been confined to North American and European fathers; however, more and more studies have begun to investigate father-child relationships in non-Western settings. Hewlett's (1991; 1992) work among the Aka Pygmies, who exhibit more paternal care than any other human group, suggests that male care-giving for infants may be part of a generalized reciprocity between husband and wife. Hewlett develops an ecological family systems theory of paternal care-giving, arguing that shared communicative activity between partners leads to greater partner intimacy, as well as increased infant care by fathers.

Yet, in reviewing literature on father involvement in developing countries, Engle and Breaux (Engle & Breaux, 1998) point out that more is known about father's absence than presence. They suggest that, in addition to a caring relationship and economic support, one of men's most important influences cross-culturally is *not* having children outside of a partnership. They consider evolutionary, economic, ecological, and cultural explanations for why some fathers, such as those described by Hewlett, invest more in children, while other fathers do not.

MEN'S EXPERIENCES OF REPRODUCTIVE IMPAIRMENT AND LOSS

Just as men's experiences of fathering are poorly understood, men's experiences of and attitudes toward reproductive impairment and loss are just beginning to be investigated. For example, in the burgeoning anthropological literature on infertility and the uses of new reproductive technologies (NRTs), men's experiences of their own or their wives' infertility have been underprivileged, despite the fact that male infertility factors contribute to more than half of all cases of infertility worldwide (van Balen & Inhorn, 2002). Yet, a growing body of anthropological research suggests the profound impact of male infertility on masculinity. Because men often deem paternity an important achievement and a major source of their masculine identity, male infertility may have significant emasculating effects. Indeed, in some parts of the world, such as the Muslim Middle East, men may compete with one another in the realms of virility and fertility, such that men demonstrate masculinity by fathering children, especially sons. Similarly, men and women alike conflate men's sexual problems (e.g., impotence) with male infertility (Ali, 1996, 2000; Lindisfarne, 1994).

Men who fail as virile patriarchs are deemed weak and ineffective, and will often go to great lengths to hide their infertility from others, including their closest family members, even their wives (Inhorn, 2002a, 2003a, 2003b). In studies of male infertility in India, most men are so humiliated by their infertility and resultant lack of fatherhood that they would rather resort to donor insemination (DI) than adoption (Bharadwaj, 2003). As long as wives are willing to collude in a family secret, infertile men who use DI can maintain the social pretense that they, themselves, have fathered a child with their own sperm.

These studies from India and the Middle East show that most men do not accept the idea of social fatherhood through adoption, making resort to NRTs the only viable option (Inhorn & Bharadwaj, 2003). Although social fatherhood is more acceptable in the West, where both adoption and stepfatherhood are relatively common, men who are infertile still grapple with the moral and emotional ambiguities surrounding the acceptance of donor sperm as a solution to their infertility (Becker, 2002). In one comparative study of infertile men in Canada and Israel, infertile men felt as if they were expected to “compete” with another man, the sperm donor, who could easily substitute for them as a biological progenitor (Carmeli & Birenbaum-Carmeli, 1994). Thus, the authors of this study suggest that infertility may have a “diffuse, total impact” on men, who may become a “target of ridicule” if their infertility becomes known to family and friends.

Even in the U.S., where NRTs and infertility support groups are now widely available, men’s infertility remains much more stigmatized than women’s (Becker, 2002), suggesting that male infertility has potentially profound consequences for men’s sense of their own masculinity. In an article provocatively titled “The End of the Line: Men’s Experiences of Being Unable to Produce a Child,” Webb and Daniluk (1999) note that men’s feelings of personal inadequacy constituted a major theme during interviews about their infertility. According to the authors, “[t]he participants used words and phrases like *failure, useless, a dud, inadequate, not a real man, garbage, loser, and defective* in reference to their self-perceptions as infertile men—men who were unable to ‘give their wife a child’” (p. 15). Some men, furthermore, attempted to compensate for their feelings of inadequacy by acting like “super jocks,” having affairs with other women, or throwing themselves into their work. In another study, men reported that their male physicians attempted to “smooth troubled waters” by referring to their infertility as “shooting blanks”—language that left men feeling separate and estranged from their somatic experiences (Moynihan, 1998). Both infertility and its treatment have been reported in the West to result for some men in impaired sexual functioning and dissatisfaction, marital communication and adjustment problems, interpersonal relationship difficulties, and emotional and psychological distress (Abbey, Andrews, & Halman, 1991; Daniluk, 1988; Greil, 1997; Greil, Porter, & Leitko, 1990; Nachtigall, Becker, & Wozny, 1992; van Balen & Trimbos-Kemper, 1994).

Relatively little is understood about what happens to men (including NRT-using infertile men) who are able to father a child, but whose wives experience a pregnancy loss through spontaneous abortion, stillbirth, or neonatal death. Findings from investigation of miscarriage in Western countries (Cecil, 1996; Miron & Chapman, 1994; Murphy, 1998; Puddifoot & Johnson, 1997) suggest that men are caught in a

double bind: On the one hand, they feel the need to avoid showing emotion so that they can support their partners through the physically difficult experience of pregnancy loss, including delivery of a dead or dying child. At the same time, they experience similar emotions of grief and loss also experienced by their female partners. This is perhaps especially true as biomedical technologies, such as prenatal sonograms, have changed men's expectations of paternal bonding to unborn children (Morgan & Michaels, 1999). Research clearly suggests that men's feelings about miscarriage and stillbirth are influenced by fetal imaging techniques. In interviews with American couples who experienced a spontaneous abortion, Layne (1992, 1999) found that fetal imaging affected the personhood status men assigned to a fetus and provided a previously unavailable mode of knowing about a fetus for both women and men. Couples who had used fetal imaging prior to a pregnancy loss often reverted to religious belief systems as a way of making sense of the reproductive tragedy. Thus, sonogram images provided pictures of "angels" who had returned to heaven. Such studies exhibit how men's relationship with their own experiences of reproduction are mediated not only by their physical separation from pregnancy, but also by numerous systems of meaning—material, medical, and moral in nature—that may be artfully interwoven or that may ultimately contradict one another.

CONCLUSION

As men are more completely drawn into discussions of reproductive health, frameworks will be necessary to organize and hopefully explain the reproductive roles that they play and the reproductive problems that they experience. Given the centrality of sexuality and reproduction in human relationships, individual psychological explanations, such as motivations and desires, will likely be combined with explanations of structural shifts in social, economic, and political organization to account for kinds and distributions of different reproductive health patterns and problems. More nuanced theoretical approaches will help to account, for example, for the increased investment of some men in the reproductive health of their partners and offspring, with the simultaneously declining investment—or flight from fatherhood—evident in many parts of the world.

In conclusion, it is tempting to draw parallels to classic demographic transition theory to explain men's attitudes toward fertility, pregnancy, childbirth, and fathering. To be specific, a distinction could be drawn between the instrumental value of children and their intrinsic value—that is, children's value for other purposes relative to their value in themselves. Such an argument might run as follows: In high-fertility, high-mortality populations, children have higher instrumental and lower intrinsic value for men, insofar as children serve to contribute to parental wealth, ensure lineage and community viability as adults, and consolidate a man's position as a full and potentially prestigious member of a community. High intrinsic value for children may be mitigated by the high rates of early mortality. As mortality falls, and child survival is less tenuous, the intrinsic value of children will rise. Their instrumental value, meanwhile, will have historically fallen as mercantilist and capitalistic economic systems limit the economic contribution of children to their parents and families. Resulting falling fertility rates will both reflect and contribute to the increasing

intrinsic value of children, allowing few children to be heavily invested in for personal fulfillment. The decline in instrumental value will at the same time release some men from responsibilities for partner and child welfare, in that men's instrumental needs must be satisfied in ways that do not involve their children. In particular, men may pursue personal success and enjoyment outside the context of family life—delaying marriage, initiating divorce, using birth control, and limiting participation in child care.

Such a perspective complements other anthropological perspectives on demographic transition, such as Caldwell's (1982) wealth-flows theory and Handwerker's (1986) theory of gatekeeping, as well as the work of Levine (1988), who has argued that different parenting strategies exist in agrarian and urban-industrial groups (i.e., agrarian groups maximize numbers of surviving children and urban-industrial groups reduce numbers of children to focus on imparting skills to them). The perspective presented also incorporates a subjective component in the valuation of children, rather than simply regarding children as part of a wealth flow or access to resources. Moreover, it could be used to explain developments in countries such as the U.S., where the nuclear family has been shown to be eroding.

Using such a framework, several predictions might be made about men's attitudes toward reproduction and reproductive health. With the transition framework described above, one might expect an increase in the importance of individual child survival and investment in individual births, as well as investment in the reproductive health of women during, after, and between pregnancies. Furthermore, one might expect changes in men's subjective experience of reproductive health problems that interfere with healthy reproduction; these would include sexual dysfunction, infertility, spontaneous abortion and stillbirth, induced abortion, the birth of disabled children, and the reproductive health problems of their partners. Men in "pre-transition" regimes would be expected to experience such reproductive health issues as social and economic problems, while men in post-transition populations would likely experience them as personal psychological problems.

The anthropological perspectives presented in this essay, while resonating with such an explanatory framework, ultimately argue against such a "male transition" model. Such an explanatory model, while providing a useful starting point for envisioning reproductive health, is overly unilinear and deterministic and does not recognize the plural relationships, positive and negative, which exist between men and others, including their reproductive partners, within any single social group. Ideals of masculinity, male sexuality, reproduction, and fathering also differ greatly between societies that have not yet or only partially undergone demographic transition. This model projects western sexual and reproductive mores, such as monogamy, fidelity, and responsible fatherhood, within a historical, quasi-evolutionary trajectory.

An alternative, anthropological account, of the kind proposed in this paper, would emphasize that men's subjective experiences of masculinity, reproduction, and fatherhood do not necessarily or invariably change over time as societies continue to "develop." Rather, concepts of manhood and masculinity, influenced by economic and social structures that simultaneously influence fertility regimes, have shifted with changes in those structures. Indeed, such changes may be caused by demographic transition, may accompany it, or may in fact cause it (Schneider &

Schneider, 1995), suggesting that the model described above would need to be carefully evaluated in local historical contexts.

In returning to the international health perspectives mentioned at the beginning of this paper, we see anthropology positively influencing an evolving reproductive health paradigm in which men are incorporated in several ways. First, the concept of local biologies suggests that men's reproductive health must be evaluated within context, rather than against a Western norm that is likely neither representative nor optimal (Bribiescas, 2001). Men's reproductive behaviors, rather than solely the product of individual decisions, occur within an ecological context that must be carefully investigated. Second, cultural anthropology demonstrates the paucity of information on the reproductive health of men and the processes by which men come to define and understand their own reproductive health needs. Far from a set of biomedical outcomes conceived of as separate from social constructions such as gender, reproductive health seems to play a part in actually defining systems of gender. Thus, anthropological studies must further address how reproduction and reproductive health affect other areas of men's lives, including their notions of masculinity.

Finally, as the meanings of masculinity change, so have the meanings of reproduction, in ways that ultimately affect the healthy reproduction of men and their families. Thus, understanding changing notions of gender and masculinity is a vitally important component of the reproductive health initiative as it enters the new millennium, with anthropological research shedding new light on what it means to "be a man" in societies around the globe.

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