

Tricky Tools for Feminist Struggle: Sex Ratios as Indicators of the Status of Women and Girls

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Abstract

This article takes up shifting meanings of the population sex ratio in select times and places. Through historicization and contextual analysis, I seek to identify possible origins and continuities of the gendered imperial and racialized logics that undergird current dilemmas for feminists related to the sex ratio. I argue that sex ratios, like other numerical abstractions that stand in as representations of empirical reality, are tricky tools for addressing social problems. Regardless of whether they are viewed primarily as natural, biological, cultural, racial, or even social, they have been both friend and foe to feminist struggle. Feminists might invest in interpretations of the ratio as a mutable, social indicator of the status of women and girls in need of improvement. Yet this idea runs the risk of misappropriation and conflation with diehard interpretations of sex ratios that reproduce hierarchy based on race/ethnicity and nationality.

Introduction

If “to classify is human” (Bowker & Star, 1999), then surely the prerequisite counting and measuring is also. Medical anthropologists and sociologists have recently scrutinized the pervasiveness of “metrics work” within the current regime of global health and governance (Adams, 2016; Adams et al., 2016; Sangaramoorthy & Benton, 2012; Erikson, 2015; Merry, 2011). Recognizing metrics as formations of power-knowledge, Vincanne Adams asserts,

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Specific numbers can certainly move policy, confer political allegiance, guarantee funding, even bring about health. But they do so not simply by claiming truth about the empirical world. They do so because of the ways they are “produced” and the ways they are circulated. These productivities and circulations are the stories that precede and exceed numerical forms of truth-telling. (2016, p. 9)

Such scholarly reflection on “numerical forms of truth-telling” is not new. Longer-standing analyses within science studies that center on the practices of labeling, enumerating, and categorizing critique the apparent objectivity and apolitical posture of these interrelated practices (Foucault, 1973; Hacking, 1986; Porter, 1995; Curtis, 2001; Zuberi, 2001). Theodore Porter, for example, theorized quantification as “strategies of communication” and “a technology of distance” that “minimizes the need for intimate knowledge and personal trust” (1995, pp. viii–ix). Anthropologists Sangaramoorthy and Benton, explore how everyday practices of enumeration co-construct identity among “‘counters’ and ‘counted’” (2012, pp. 287–288). Law scholars have also taken up the study of the “quiet exercise of power through indicators” (Merry et al., 2015, p. 1). The idea that reliance on metrics will increase accountability in matters of health or women’s status is one that feminists have sometimes rejected. However, *Our Bodies, Ourselves*, the famous feminist self-help manual on health, shifted its overall perspective in recent editions from anti-medicalization to pro-evidence-based medicine (Davis, 2007), and metrics are recognized often undisputedly as evidence. Yet as Adams et al. argue, alternative forms of accounting (such as providing safety nets made up of community members and professional providers and incorporating local knowledge in health interventions) provide “useful evidence of another kind” (2016, p. 277). Science and technology studies (STS) scholar Zora Kovacic loosely categorizes “criticisms of the use of quantitative information for policy” into “approaches that move away from quantification” or “approaches that seek alternative ways of engaging with quantification” (2018, p. 1041). In this article, I take up the population sex ratio but propose neither an explicit move away from, nor an alternative way of addressing the metric. By historicizing and contextualizing the metric in select times and places, I seek to identify possible origins and continuities of the gendered imperial and racialized logics that undergird current dilemmas for feminists related to the sex ratio.

An exploration into shifting meanings and deployments of the sex ratio in various times and places, my analysis pivots from Europe in the eighteenth and nineteenth centuries to India in the twentieth century, international stages at the

turn of the last century, and finally to the United States in the twenty-first. In each instance, I ask what these numbers are meant to indicate? This selection represents situated moments where stakeholders such as theologians, statisticians, colonizers, demographers, economists, feminists, and anti-abortion lobbyists have made loud claims as to the meaning and implication of sex ratios. Given that discussion on sex ratios as they pertain to places such as in Africa or Latin America are comparatively mute, they are not addressed here. Tracing shifting meanings from the natural and biological to the social, cultural, and racial, I explore how a presumption of changeability or unchangeability can shift even within the same interpretation of the metric. As markers of the status of women and girls, sex ratios have been taken up both apart from and in interaction with feminist struggle. Like other numerical abstractions that stand in as representations of empirical reality, sex ratios are tricky tools for addressing social problems. They have been both friend and foe to feminist struggle.

A Natural Indicator

The World Health Organization (WHO) defines the natural sex ratio at birth (SRB): “In the human species the ratio between males and females at birth is slightly biased towards the male sex. The natural ‘sex ratio at birth’ is often considered to be around 105. This means that at birth on average, there are 105 males for every 100 females” (SEARO, 2018). In this section, I explain how this particular measure of the sex ratio at birth came to represent a natural order, universally applicable to all humans. I highlight peculiar past interpretations of the measure that underline the classic critique of the presumed neutrality of scientific fact made by science studies scholars, feminist or not.

According to French historians of science Éric Brian and Marie Jaisson, the sex ratio at birth provided “one of the empirical terrains where metaphysical and mathematical debates were liveliest” during the eighteenth century (2007, p. 22). European mathematicians, philosophers, biologists, and sociologists who deliberated the calculation of the proportion of sexes at birth over three centuries focused at times on its relative constancy and at other times on its variability, however slight. In 1741, for example, the German theologian and scholar Johann Peter Süssmilch considered the constancy of the SRB a manifestation of divine providence to ensure the survival of the species but also as a sign that God intended monogamy (Brian & Jaisson, 2007, p. 6). By the end of that century European philosophers made a short leap from God to nature, theorizing that the small excess of males in the SRB was nature’s way to compensate for later decreases in the number of men (Brian & Jaisson, 2007, p. 8). This explanation still

appears on the WHO website today (SEARO, 2018).

Just how did the SRB of 105/100 become a standard? Gender studies scholar Carole McCann provides some clue when she historicizes the making of this fact by noting that “the so-called natural ratio of 105 males to 100 females is based on 300 years of parish records from Sweden, understood as recording biologically determined ratios” (2016, p. 267). Demographers today attribute one of the first records of SRB that revealed a slight excess in males to John Graunt in 1662, who calculated and compared ratios in the city and country based on information from christenings in London and Romsey (Chahnazarian, 1990, p. 1; Brian & Jaisson, 2007, pp. 3–4; Campbell, 2001, p. 606). A century later, the French mathematician Pierre-Simon Laplace referred in a lecture to a slightly male-biased SRB applicable to humans as a “general law of nature” (cited in Brian & Jaisson, 2007, p. 24). By the late twentieth century, typical studies that establish “The Missing Girls of China” (Johansson & Nygren, 1991) or “Daughter Elimination in Tamil Nadu, India” (Srinivasan & Bedi, 2008) compare SRBs within their study regions to a “normal” SRB, calculated from Swedish vital records data. Johansson and Nygren explain, “Sweden has a continuous yearly time series on sex ratios among live births since 1749...This series seems to indicate that the expected sex ratio among live births under normal circumstances is between 105 and 106 boys per 100 girls” (1991, p. 36). Srinivasan and Bedi similarly choose the same indicator as their “normal” SRB for comparative purposes because “in the absence of a complete civil registration system” in India, “it is commonly assumed” (2008, p. 965).

Belgian astronomer Adolphe Quetelet mobilized European statistical offices towards standardization, calling international congresses and circulating statistical textbooks. His work opened the way for comparative international statistics (Schweber, 2006; Michalopoulou 2016; Brian & Jaisson, 2007). As the scholars became assured of the accuracy of their data, they could no longer attribute deviations from the natural SRB to uncertainties in measure or in method and sought new explanations. As biology historian Francisco Louçã describes this moment,

The analysis of errors and variation in Nature became the core of applied statistics. This was not simply motivated by the evolution of theory itself, but also by the social and ideological context: in Britain, eugenics was a major motivation for the development of applied statistics, which was asked not only to highlight the processes of inheritance and variation, but also to indicate the tools for selecting

the future of humankind. (2009, p. 655)

With the particular nineteenth-century influence of English biometry and eugenics through prominent figures such as Charles Babbage, Charles Darwin, and Francis Galton, statisticians began to compare racialized groups, marking as Babbage did in 1829, for example, Jews in Prussia for their “remarkable excess of males” (Brian & Jaisson, 2007, p. 95). Scholars moved from seeking a central trend while being mindful of variability to centering the study of variability as a “statistics of biological phenomena” (Brian & Jaisson, 2007, p. 106).

Yet viewing SRBs as biological or natural phenomena did not necessarily preclude that they could not change. It appears that the very task of comparing SRBs led statisticians to consider the possibility of manipulation. Comparing European country tables in 1865, Quetelet observed differences from the standard across all countries between what he called “legitimate” and “illegitimate” births. He speculated that marriage provided pregnant women more lavish care, which could be conducive to male births (Brian & Jaisson, 2007). Another variation in the SRB detected between city and country dwellers preoccupied the French sociologist Maurice Halbwachs. Halbwachs postulated that the greater proportion of males in the country correlated to smaller parental age gaps. Nazi statistician Richard Korherr brought the work of Halbwachs (who later died in a Nazi concentration camp) to the attention of Heinrich Himmler. Korherr hoped to convince Himmler that the fascist regime could increase the birth of boys (and thereby its forces) by manipulating the age of the mothers (Brian & Jaisson, 2007). However, it was not until the end of the twentieth century, when SRBs became a global indicator, that a presumption of changeability would more fully underpin the task of comparing SRBs by nation-states.

An Unnatural Indicator

Taken up within the British Empire, sex ratios debut at the turn of the twentieth century as an overtly political calculation and measure of uncivilized status. Colonial census reports provided an early mechanism to frame India’s population as a problem. In addition to marking India as “overpopulated,” census reports in the late nineteenth and early twentieth century noted an “adverse sex ratio.” According to gender studies scholar Mary John,

the very creation of the Census for the counting of the Indian population by the colonial state was fueled not just by Malthusian discourses of population or the need to fix caste and community boundaries, but by the wish to demonstrate its civilizing mission to

combat 'violence against women' through addressing female infanticide via the counting of men and women, boys and girls. (UN Women, 2014, p. 3)

Appearing for the first time in the 1881 census, the colonial powers calculated sex ratios in the total population (not at birth) for the purpose of differentiating and ranking caste groups (Purewal, 2010). A 1921 Census of India report, for example, compares sex ratios from 1901, 1911, and 1921 by caste. It further classifies each caste into two categories based on whether or not they had a tradition of female infanticide (Purewal, 2010). Sociologist Navtej Purewal explains that this classification system served the "wider objectives of gaining imperial advantage in the region," in order to maintain social control over "potential or already existing allies or adversaries of the colonial state" (2010, p. 31). According to Purewal, British feminists who supported the civilizing mission of their empire did not overtly advocate on this issue. Rather, British male administrators in India selectively criminalized some groups for practicing infanticide, while overlooking the issue among others in order to strike strategic alignments with the male leaders of those dominant castes. Thus, sex ratios in late nineteenth-century India served as a calculus for colonial intervention not only as an indicator of "backward" culture but also as a means to divide and conquer. The colonial administration did not interpret them as given by an unchanging nature so much as produced by an unchanging culture.

Outside the context of direct colonial rule, and therefore of less political consequence, retrospective demographic study of China similarly reveals longstanding imbalances in the overall (not at birth) population sex ratio measured from the late nineteenth century onwards. An international collaboration of demographers document periods of imbalance throughout the twentieth century, identifying spikes during "periods of stress on family resources," including, "the Republican Revolution (1910), the Japanese invasion (1937), the Great Famine (1959), the Cultural Revolution (1966), and after the implementation of the strict birth control policy (1980)" (Jiang et al., 2012, p. 468). Feminist anthropologist Susan Greenhalgh and demographer Jiali Li similarly highlight change in the SRB prompted by intensified population control in China: "sex ratios at birth were normal from the early 1960s to the late 1970s—values that had lain dormant for decades resurfaced in the 1980s with the introduction of the one-child policy" (Greenhalgh & Li, 1995, p. 603). By the 1980s, with China and an independent India now firmly imbricated in international development regimes, China's sex ratios could no longer escape an intensifying Western gaze.

A Social Indicator

Feminist scholars in India towards the latter half of the twentieth century reclaimed the sex ratio as a social indicator of the low status of women of girls. They hoped that redirecting attention away from a preoccupation with fertility rates in Indian and international policy circles and towards an imbalanced sex ratio would prompt policymaking to address gender inequality. Yet the appropriation of the measure as an indicator of (bad) sex selection practices thwarted their effort. The legacy of an imperial interpretation of the measure as indicator of unchanging culture began to resurface.

In the 1960s and 1970s, demographers Pravin Visaria and Asok Mitra recognized that the historically longstanding sex ratio imbalance in India had worsened during independence. They viewed high female mortality as the cause of the disparity. Anthropologists and economists joined them in puzzling over why this imbalance, known to exist since the late nineteenth century, should continue during an era of modernization and development (UN Women, 2014). Feminist scholars vocally and strategically joined this fray in the mid-1970s, raising concerns about the sex ratio imbalance in the landmark publication *Towards Equality*. Authored by prominent women academics, including Lotika Sarkar, Vina Mazumdar, Leela Dube, and Urmila Haksar, who were appointed in 1971 to form the Committee on the Status of Women, the report served as a comprehensive account of women's economic, social, political, and cultural status in India. As Vina Mazumdar recalls, "the [Committee on the Status of Women in India] used the declining sex ratio as a secular indicator of a complex process of economic marginalisation and consequent devaluation of women" (1991, p. 52). *Towards Equality* authors Vina Mazumdar and Kumud Sharma explain the importance of the sex ratio, which provided a measure of inequality that could support their other findings:

For the Committee on the Status of Women in India, the declining sex ratio was both a discovery and the most convincing measure to provide body and substance to its grim findings. These findings could otherwise have been dismissed by many as impressions or unscientific observations by a bunch of women—which did not include a single demographer. (Mazumdar & Sharma, 2001, p. 15)

Thus, feminists at this moment in India claimed the sex ratio as a credible social indicator in service of raising concern and soliciting action to address gender inequality. Citing demographer Pravin Visaria, feminist scholar Nivedita Menon voiced frustration at the overwhelming attention given to fertility rates over the

sex ratio:

Population has been defined so narrowly that important factors like the declining sex ratio, morbidity and malnutrition are not considered significant variables in demographic studies. The only demographic sector which has received an overdose of policy attention, Visaria says, is fertility, and even this focus has been “an absolute obsession with sterilization, contraception and abortion” while access to health care has been ignored. (Menon, 1995, p. 388)

Yet this coveted attention to sex ratios, when it finally arrived in the 1990s, occurred not quite in the way that Menon envisioned.

When feminist scholars in 1970s India repurposed adverse sex ratios for social change in their advocacy on gender inequality, they did so without recourse to sex-selective abortions. Their activism preceded awareness of, let alone involvement in, that issue. Similarly, when activists in India first began to raise sex selection as an issue of concern a decade later, it was not in response to imbalanced sex ratios. After all, such an imbalance had long existed, documented since the origin of census taking in India in the late nineteenth century (Visaria, 2007). In fact, during the mid-1980s, when the campaign to stop sex selection began to form in India, the latest preceding census results from the 1981 census marked a relative improvement in overall population sex ratios, which census officials prematurely attributed to the successful implementation of government maternal and child health programs (Guillot, 2002). The discursive turn to connect sex selection with population sex ratio imbalance began after the 1991 census revealed the worst imbalance in the sex ratio ever recorded (Guillot, 2002). As demographer Michel Guillot records the moment, “After [the enthusiasm tied to improving sex ratios in 1981], the increase in the sex ratio between 1981 and 1991 came as a shock, and threw doubt on the idea that discrimination had decreased” (2002, p. 53). A feminist statement signed by representatives from seven women’s organizations highlighted their own lack of surprise:

The 1991 results...shatter the rather optimistic conclusions drawn by the Census authorities in 1981 that the upward tilt of three points indicated that India had turned away from the demographic slide in women’s status...We did not receive the 1981 Census results with any euphoria, since we found that the sex ratio continued to decline in several States. (cited in Mazumdar, 1991, pp. 52–53)

The statement reiterated demands that the government prioritize “protection

and improvement of women's rights" over "population control" (cited in Mazumdar, 1991, pp. 52–53). The statement did not suggest that sex selection caused the decline in the sex ratio. However, a debate on this question did ensue among demographers in *Economic and Political Weekly*, with a majority of them rejecting the hypothesis that increasing use of sex determination to abort female fetuses during the 1980s could be responsible for the sex ratio imbalance measured for the total population (Guillot, 2002). The preeminent economist Amartya Sen also rejected this hypothesis, even though his coinage of "missing women" became enrolled in a growing discourse that used sex ratios as evidence to bolster claims that sex-selective abortions were out of hand and must be addressed (Kristof, 1991).

Sen's (1990) highly influential piece, "More than 100 Million Women Are Missing," brought a discussion already underway by lesser-known scholars to international prominence. The piece problematized sex ratio disparities precisely in areas that had experienced recent rapid economic growth. Appearing before the release of the 1991 census results in India, Sen's piece notably did not mention these results, nor did it make any mention of sex-selective abortions. Instead, it pointed to lack of waged employment outside the home for women as a major factor that likely worsened women's chances for survival (Sen, 1990). Soon after, with access to preliminary results from the 1991 census in India, influential US demographer Ansley Coale joined Sen in raising concern about sex ratios. A primary architect of the demographic transition theory and director of the Office of Population Research at Princeton University, Coale's work had been instrumental during the twentieth century in providing the theoretical basis for international advocacy for family planning assistance to curb population growth rates of "underdeveloped" countries. Although Coale came up with 60 million "missing females," an estimate far lower than Sen's, his conclusion validated Sen's main argument: "The methodology...yields a more realistic estimate [than Sen's]. It is an estimate, however, that confirms the enormity of the social problem brought to wide public attention by Professor Sen" (Coale, 1991, p. 522). Thus, prominent intellectuals gave voice to the issue of sex ratio disparities, prompting swift broader public and international attention to the 1991 census results.

It is important to emphasize that for the feminist movement in India, claims made in relation to the sex ratio preceded and remained largely distinct from those related to sex selection. Adverse sex ratios did not prompt feminist alarm and action over the practice of sex-selective abortion. Rather, it was primarily advertisements as well as employer and physician anecdotes that propelled

activists into action on that issue (Ravindra, 1993; Gupte, 2003; Mazumdar, 2003).

While it is not precisely clear when sex ratios became a proxy for the practice of sex selection, which itself became a proxy for culturally induced gender discrimination, convergence appears to have occurred against the background of the 1994 International Conference on Population and Development (ICPD) in Cairo. This was the first international arena in which sex selection practices were condemned in the context of new language on “gender equality, equity and empowerment of women” (section 4 of the ICPD Programme of Action). Just ahead of the conference, both China and India banned prenatal sex determination, and the timing suggests that the countries may have responded as much to external pressure as to internal motions. Susan Greenhalgh (2012), who documents how sex ratios were an “undiscussable issue” in China from 1979 to 1993, points to two factors occurring in the early 1990s that prompted change in the official frame. Recognition of fertility decline to replacement level and the focus on “gender equity and the ‘missing girls’” in Cairo and within international agendas generally gave China a “political opening” to address sex ratio disparities and be recognized as “a responsible member of the world community” (Greenhalgh, 2012, pp. 135–136).

Similar to China, there is some evidence to suggest that motivation to pass a federal bill stemmed from the Government of India’s eagerness to be viewed as doing something to address its “adverse sex ratio.” Although first introduced in India’s parliament in 1991, it was not until July of 1994, just two months before the ICPD, that India’s lower house debated and passed the Pre-Natal Diagnostic Techniques Regulation and Prevention of Misuse (PNDT) Act banning sex determination. As one speaker representing a constituency in the state of Uttar Pradesh, noted that day, “It is not only India but the whole world is anxious about the outcome of this Bill” (Lok Sabha Debates, 1994, p. 517).

As already mentioned, feminist campaign work during the 1980s in Maharashtra did not allude to sex ratio disparities, and it was only in the move towards federal legislation that this suggestion arose. Bioscientist and pharmacy professor R. P. Ravindra, who was a member of Forum Against Sex Determination and Sex Pre-selection in India, argued for fusing concerns related to the sex ratio and sex selection at an Advocacy Workshop in April 1990:

Success in the campaign against [sex determination] is the first step towards regulation of [new reproductive technologies]. If we succeed in getting a law against [sex determination] on the grounds of a

constitutional Right to Equality and on society's right to intervene for restoration [sic] of sex ratio balance, we can challenge sex preselection on the same grounds. (Ravindra, 1993, p. 42).

Yet it is not clear that this sentiment was widely shared. Early legislative success in the state of Maharashtra to ban sex determination combined with general unease in working with the state and disappointment in Maharashtra's follow-up, and implementation of the local law put the brakes on feminist and allied campaign work on sex selection (FASDSP, 2003). The momentum for the federal law appears to have come from other sources, in particular the renewed emphasis on the sex ratio that accompanied the release of the 1991 census results. Answering a question by a member of the upper house of parliament in 1993 on what action the Government of India was taking to address the skewed sex ratio, the Minister of Health and Family Welfare, Shri Paban Singh Ghatowar, mentioned its introduction of the PNDT Bill (Rajya Sabha, May 5, 1993). Debates at the time of its passage in 1994 in both houses of parliament reveal that the minister continued to tout the PNDT bill as means to address the sex ratio disparity for the total population (not at birth).

We can quote many figures justifying one point or the other. But the fact remains that there is still a gap between the male and the female ratio. We have to arrest it (Lok Sabha Debates, July 26, 1994, p. 534)

Some hon. Members rightly mentioned about the decreasing female population in our society...I think this is an alarming situation and every responsible person in the society has to address himself to the problem. (Rajya Sabha Debates, August 4, 1994, p. 431)

Thus, at the federal level, motivation for passing the PNDT Act did not arise solely nor predominantly from the grassroots. Other factors influencing the act's passage included the timing of interventions made by public intellectuals on "missing women" that invited broader scrutiny of sex ratios, the release of the 1991 census results, and unprecedented feminist incursions in the international population policy arena that led to new directives on gender equality. In these ways, sex ratios became subsumed by a development imperative with its own presumption of changeability, even when the fact that sex ratios had remained unchanged under development had initially prompted the attention of demographers.

A Global Indicator

At the turn of the twenty-first century, sex ratios resurfaced as indicators of global

significance. In the colonial era, sex ratios assisted the British to justify their civilizing mission and identify allies or adversaries among the “natives.” After independence, sex ratios in India lost their status as remarkable indicators, especially in comparison to fertility rates and population size and growth estimates. By the mid-1990s, however, sex ratios resumed relevance once again when the ICPD Programme of Action deemed “prenatal sex selection” a “harmful” and “unethical” practice resulting from “discrimination against the girl child” (UNFPA, 1995, para.4.16). International attention pivoted to sex ratios *at birth* as a way to identify the problem and the problem makers. Due to lack of reliable birth registration data, however, in India it is more common to scrutinize the child sex ratio for ages zero to six (UNFPA, 2014). Just as censuses in the 1990s began to reveal a consistent downward trend in fertility rates all over the world, the UN agency established to promote population control assumed a new charge. In a 2014 “Guidance Note on Prenatal Sex Selection,” the UNFPA explained its “focus” as well as “role and response” on “prenatal sex selection for non health reasons” as “part of its mandate to contribute to gender equality and women’s empowerment” (p. 2). The UNFPA focused this mission initially in its country offices within China and India, and held regional conferences on sex ratio imbalance—the first in Korea in 1994, then China in 2004, India in 2007, and Vietnam in 2011 (UNFPA, 2012). It also collaborated with other international agencies such as WHO, UNICEF, OHCHR, and UN Women to produce a statement, *Preventing Gender-Biased Sex Selection*, in 2011 that urged states to address the problem in ways that do not compromise women’s access to needed reproductive health technologies and services (WHO, 2011). The UNFPA’s new mandate to address sex selection coincided with a more general shift in international development discourse from women to girls and from “missing women” (the original term coined by Sen) to “missing girls” (Hendricks & Bachan, 2015). The most recent UNFPA strategic plan (2018–2021) reiterates commitment to these issues: “The recently launched UNFPA global programme on son preference and the undervaluation of girls, under way in six countries in the Asia-Pacific, Central Asia and Eastern Europe regions, will expand work to eliminate this harmful practice” (Executive Board, 2017).

Sex ratios debut in this moment as global indicators in two senses. First, they are a matter of global concern to be scrutinized on international stages. In addition to the UNFPA’s mandate mentioned above, the World Economic Forum (2017), since 2006, incorporated sex ratios at birth in calculations of gender gaps by country as a measure of a country’s economically competitive status. Sex ratios at birth alongside healthy life expectancy are folded together to capture a gender gap

related to health and survival. The Forum launched the “economic gender parity agenda,” to foster both global and national level policy that will “maximize women’s economic potential” and “harness the gender parity opportunities posed by the changing nature of work” (World Economic Forum, n.d.). In this way, sex ratios became new postcolonial sites of (global) surveillance and intervention, much like fertility rates in the mid-twentieth century.

The work of French demographer Christophe Guilmoto, influential to new global agendas on the sex ratio, addresses the problem in ways that mirror demographic discourse on global “overpopulation” from the mid-twentieth century. Guilmoto (2009) borrows two pervasive concepts related to “overpopulation” that emphasize the problem of sex ratio disparities as a global one. First, he draws on demographic transition theory, the twentieth-century idea that through economic modernization poor countries could transition from high to low death and birth rates. In a similar vein, Guilmoto hypothesizes that high sex ratios at birth in Asia will eventually “plateau at some threshold level and subsequently decrease” (2009, p. 540). However, since this transition will occur slowly, it must be addressed through immediate action by governments, especially since its consequences are shared. Drawing on Garrett Hardin’s classic 1968 article, which popularized the “tragedy of the commons,” Guilmoto posits,

The behavior of couples who want to avoid female births is typically an opportunistic strategy whose benefits seem clear in an environment in which boys are more valued than girls. But by tampering with normal biological outcomes, parents do not contribute their share of girls to the common demographic pool, a contribution necessary for the equilibrium of the marriage and family systems. Such behavior is typical of free riders; and, seen from a wider perspective, environmental economists will recognize the characteristic ingredients of a tragedy of the commons, the archetypical social trap in which free access to a public resource by individual interests leads to the depletion of the original shared resource (Hardin, 1968). (Guilmoto, 2009, p. 537)

Thus, through familiar strategies that emphasize the (globally) shared nature of the problem of disparities in sex ratios (depletion of girls as a common resource) and universally applicable paths to transition to a more even SRB, demographic experts, like policymakers, underline the global nature of high SRBs.

At the same time, SRBs are globalized at this turn as a problem that spreads across borders. Guilmoto further refers to imbalanced ratios as “diffusing” across

several world regions from Asia to Southern Europe and to Southeast Asia:

Urban elites were the first to get information on and access to the new sex selection technology. The fast-rising sex ratio at birth observed after a few years followed the diffusion of this new sex-selection strategy to new groups and to neighboring regions. This was made possible by the spread of information; the widening supply of the technology, mostly through private health care facilities; and the declining cost of ultrasound machinery. Regional maps demonstrate the gradual diffusion of high sex ratios across affected countries. (Guilmoto, 2009. p. 524)

From origins attributed to China and India, the problem has been depicted as spreading to Armenia, Georgia, and Azerbaijan, countries bridging Europe in the Caucasus region, and to Vietnam in Southeast Asia (WHO, 2011). The global problem of spreading SRB imbalance was significantly buttressed in the 2000s by security studies scholars who promoted a dystopic vision of surplus men as “threats to social stability” at home and “export[ers] of violence to neighboring countries” (Greenhalgh, 2012, p. 137). Most notable among this work is Andrea den Boer and Valerie Hudson’s 2004 highly influential book, *Bare Branches: The Security Implications of Asia’s Surplus Male Population*. The notion of masculinizing populations as security threat intersects with longer-standing youth bulge theory developed by the CIA in the mid-1980s to identify danger in large populations of youth, particularly racialized and gendered “angry young men” from the Global South (Hartmann & Hendrixson, 2005). These discourses of security rely on a combination of fixed and moving parts—ahistorical (and therefore unchanging) notions of culture that adhere to racialized groupings of people that cannot be contained.

An extensive UNFPA report in 2012, *Sex Imbalances at Birth: Current Trends, Consequences, and Policy Implications*, lists son preference, spread of technologies, and decreasing fertility as three main factors responsible for “prenatal sex selection.” Yet this report, like the interagency statement released by the WHO in 2011, makes imminently clear that the latter two factors are non-negotiable policy areas. Prohibiting access to reproductive technologies or encouraging families to have more children are off the table when it comes to recommended action steps. Son preference, understood as a locally specific cultural and socioeconomic phenomenon, remains the only factor held into account. The following description from the 2012 UNFPA report presents a typical description of the problem:

Prenatal sex selection leads to distorted levels of sex ratios at birth (SRB), which today range between 110 and 120 male births per 100 female births in many countries, against the standard biological level of 104–106. Birth masculinity as measured by the sex ratio at birth reaches levels above 120 or 130 in some specific regions, pointing to the intensity of son preference and gender discrimination there. (p. 9)

In the above depiction, adverse SRBs serve as indicators not only of the prevalence of sex selection practices but of the underlying malaise of son preference that is “specific” to a “region.” However, since international agencies simultaneously depict adverse SRBs as globalizing, the underlying cause (understood as unchanging culture), it stands to reason, can uproot and spread. New stakeholders—anti-abortion groups in the US—increasingly deploy this logic when raising concern about the sex ratio in the 2010s.

A Racial Indicator

It is consequential that the work of Lena Edlund, which had contributed to discourses associating “surplus men” with rising crime in the global arena (Edlund et al., 2007), also provided fodder for developing racialized discourses leading to anti-abortion legislation in the US. In 2008 an influential study by Douglas Almond and Lena Edlund, published in the *Proceedings of the National Academy of Sciences*, divulged sex ratio imbalances at birth among Korean-, Chinese-, and Asian-Indian Americans. The authors showed that the proportion of boys to girls starts out even among first births within these groups, but that it jumps incrementally at second, third, and higher order births if no sons are born. They state explicitly, “We interpret the found deviation in favor of sons to be evidence of sex selection, most likely at the prenatal stage” (Almond & Edlund, 2008, p. 5681).

At first, Generations Ahead, a feminist reproductive justice organization in the US that had worked on the issue of sex selection, made use of these findings to raise concerns about the practice. They produced a toolkit called Taking a Stand: Tools for Action on Sex Selection (2009). Authors of the toolkit explained in a project document, “We have worked hard to demonstrate that we can protect women’s reproductive autonomy while acknowledging that sex selection is antithetical to women’s rights and health. It is possible to work to discourage sex-selective practices while defending women’s reproductive decision-making” (Jesudason & Baruch, n.d., pp. 10–11). The toolkit refers to sex ratio disparities as “strong evidence” of the occurrence of sex selection, referencing the Almond and Edlund study.

Yet, at the very same time, Steven Mosher, president of the anti-choice organization Population Research Institute, proposed banning sex-selective abortions as a goal of the “pro-life movement,” and Americans United for Life subsequently published a guide to assist legislators in developing such policy (Kalantry, 2015, p. 146). For proof, legislators following the guide also drew on the Almond and Edlund study. Within one year of its release, the study prompted “a wave of legislation” with twenty-one states and the federal government considering bans on sex-selective abortion, often more than once, and seven states passing them (Kalantry, 2017, p. 13). Justification for passage of sex-selective abortion bans relied on notions of static foreign cultures bringing their problems to the US. In explaining his vote, Arizona State Senator Rick Murphy’s remarks typify this response:

We know that it’s something that is pervasive in some areas. We know that people from those countries and from those cultures are moving and immigrating in some reasonable numbers to the United States and to Arizona. And so with that in mind, why in good conscience would we want to wait until the problem does develop and bad things are happening and then react when we can be proactive and try to prevent the problem from happening in the first place. (quoted in Complaint, *NAACP v. Tom Horne*, 2013)

In reaction to this development, feminist reproductive justice advocates quickly recoiled and began to re-strategize. The National Asian and Pacific American Women’s Forum collaborated with Advancing New Standards in Reproductive Health and the International Human Rights Clinic at the University of Chicago Law School to conduct research that could authoritatively discredit claims made by anti-abortion proponents when lobbying to ban sex-selective abortions. Their resulting report, *Replacing Myths with Facts: Sex-Selective Abortion Laws in the United States*, questioned whether sex-selective abortions are even a problem in the United States, presenting new quantitative analysis and interpretations of the influential Almond and Edlund study. Asserting, “there is, in fact, no way to determine what method has been used to achieve sex selection or whether sex selection has occurred at all based solely on sex ratios at birth,” the report invalidates the authenticity of skewed SRBs as a measure or sign of sex-selective abortions (Citro et al., 2014, p. 27). The report complicates a dominant narrative linking skewed SRBs, Asian Americans, and sex selection by revealing, for example, that Asian groups in the US have “more girls overall than white Americans,” and that Liechtenstein and Armenia, with “predominantly white

populations," have more heavily male-biased sex ratios than India and China (Citro et al., 2014, p. 8). Declaring that the real basis of the argument for sex-selective abortion bans lies in racial stereotyping, the report repudiates the purported gender equality concerns claimed by anti-abortion supporters of the bills. As one of the framers indicated to me, *Replacing Myths with Facts* was directed equally towards pro-choice as anti-choice lawmakers and advocates because the former initially struggled with their own racial biases, which prevented them from articulating immediate opposition to the bans.

One of the report's co-authors, law professor Sital Kalantry, subsequently published a book on sex-selective abortion laws in the US and India, in which she devotes a chapter to a re-analysis of the quantitative data that buttressed legislative proposals to ban sex-selective abortions since 2009 in the US. She states, "There is a general perception that data does not lie. But the problem is not with Almond and Edlund's data; it is with the interpretation of their data" (Kalantry, 2017, p. 100). Drawing on Tufuku Zuberi and Eduardo Bonilla-Silva's *White Logic, White Methods: Racism and methodology* (2008), and "e-CRT," an emergent field combining empirical methods with critical race theory (Barnes, 2016), Kalantry critiques the main empirical studies on sex ratios of Asian Americans and offers new data in a way that shifts the narrative. For example, Kalantry questions using Caucasians as the "control group" against which Asian American sex ratios are judged abnormal, and she presents data across all births (rather than by birth order) that demonstrate Asian American sex ratios at birth are not male-biased. Moreover, she insists that "sex ratios are inaccurately used as conclusive evidence of the abortion of female fetuses" (2017, p. 115) and that "even where researchers find imbalanced sex ratios, those ratios do not tell us the motivations for people's behavior" (2017, p. 120). In a related inquiry, Kalantry asks whether sex-selective abortion bans are just as much an anti-immigrant strategy as anti-abortion. With her finding of "a statistically significant association between Asian immigration growth rates and consideration of sex-selective abortion bans in state legislatures that do not have a record of passing anti-abortion laws" (Kalantry, 2017, p. 91), Kalantry highlights not only the populationist motivations behind the laws, but the fear that they may lead to greater racial profiling and surveillance among Asian Americans seeking abortions (Kalantry, 2015).

Towards Reflexive Use of Numbers in Feminist Practice

This paper began through my own reflexive engagement with a claim I once took for granted and projected in activism—that sex selection practices cause

imbalances in sex ratios and that those ratios provide strong evidence that sex selection is taking place. Returning to the metaphor of sex ratios as a tricky tool for addressing social problems, it is incumbent on contributors to sex ratio discourse, feminist or not, that they understand differences between measures meant to capture sex ratios at birth, at particular birth orders, for particular age ranges, or of a population at large. Further, feminists might want to ask how and why particular groups make up a “population” in need of measurement. Today, I would suggest more questioning about what sex ratios are meant to indicate, whether we can assume that an imbalance in sex ratio necessarily signifies that the practice of sex-selective abortion is widespread, and even why only two sexes should be measured in binary relation to one another. In this article, I presented varied indications of sex ratios during select historical moments and places. Considering these together reveals how the rise of sex ratios as a current global indicator is connected to past colonial and neocolonial populationist projects, and that the “white logic” readily deployed by anti-abortion interests in the US to combat what they portray as deviant Asian American reproduction has connections to discourses that tie “surplus men” in Asian societies to crime and social instability. Indeed, the ways that sex ratios have been deployed in the past or in other places can resurface in current manifestations, wherever they are situated. The trickiness of sex ratios means that we cannot accept them *prima facie* as simple indicators of “the status of women and girls.” As a measure long imbricated in imperial and racialized hierarchy, the meaning and deployment of sex ratios are highly consequential for intersectional feminist politics and agendas.

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