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**Abstracts**

**Essay 1: “Sex Ratios and Risky Sexual Behavior” (2006).**

An estimated 38.6 million people worldwide were living with HIV in 2005 and an estimated 2.8 million died in that year alone. Behind these aggregate figures are remarkable racial disparities. Black Americans make up 12.3 percent of the US population, but accounted for 50 percent of new HIV/AIDS diagnoses. In 2002, HIV/AIDS was among the top 3 cause of death for Black men aged 25-54 years and among the top 4 cause of death for Black women aged 25-54. It was the number 1 cause of death for Black women aged 25-34.

Epidemiologists have suggested that racial disparities exist because of a greater degree of concurrency in those sexual networks, but this invites a question: why is the degree of concurrency higher in Black sexual networks? In this paper, I emphasize the relative shortage of men in Black communities, created largely by the high rates of Black male incarceration. I hypothesize that these low “sex ratios” allow for men with tastes for sexual diversity to form concurrent partnerships, as well as affects their condom use.

I exploit the fact that the overwhelming majority of sexual relationships occur between women and men of similar age, race/ethnicity and geographic location to estimate the effect of changing sex ratios on male sexual behavior and condom use. Using data from the 2000 Census and the National Longitudinal Survey of Youth (1997), I first examine the effect of the sex ratio on concurrency by focusing on men in the right tail of the sex partnership distribution. I assume that these men reveal a taste for sexual diversity by virtue of appearing in the right tail. Next, I investigate the sex ratio’s effect on condom use. On the one hand, a shortage of males improves a man’s ability to negotiate sex without condoms. On the other hand, sexual behavior can have negative externalities throughout the network if it increases the probability of others matching with an infected agent (Jackson (2005) and Ballester et al. (2006)), in which case a rational male would increase his condom use to lower his STI risk.

I find that a 1-point increase in the ratio of women to men ( $\times 100$ ) causes Black males at the .90 quantile to have between .096 and .166 more partners a year. Given a 28 point change in the sex ratio, back-of-the-envelope calculations put this at between 2.7-4.6 additional partners a year. Furthermore, I find that men at the .10 quantile of the condom use distribution reduced condom use 1.5 points for every 1 point change in the ratio of women to men, while men at the median increased their condom use 1 point.

## **Essay 2: “Male Incarceration and the Spread of STIs” (2006).**

By midyear 2005, an estimated 12 percent of all Black males and 1.7 percent of all White males were imprisoned. This number was not always so high—from 1980 to 2000, the incarceration rate of Black males aged 15-44 grew from 3.17 to 10.04 percent, creating a significant imbalance in the sex ratio.

I argue that this imbalance affects the terms of trade in sexual exchange, increasing concurrency, which in turn speeds the spread of STIs in the sexual network. To test my proposition, I examine the effect of incarceration on gonorrhea and syphilis incidence. I examine gonorrhea and syphilis because they have short incubation spells, making incidence a good gauge for contemporaneous sexual behavior.

Using panel data on state, age, sex and race-specific disease and incarceration over the 1981-2000 period, I estimate the effect of male incarceration rates on gonorrhea and syphilis case rates, controlling for Crack cocaine usage, per capita alcohol consumption, per capita income and the number of males who died of AIDS that year (all at the state level). My findings can be summarized as follows. First, a 1-point increase in the Black male incarceration was associated with 38 new cases of gonorrhea among Black females (per 100,000). Similarly, I found that a 1-point increase in the male incarceration rate increased Black female syphilis incidence by 3.4 new cases (per 100,000). Second, I show that Black STI incidence increased with crack cocaine use—a 1 point change in the Crack index was associated with 84 new gonorrhea cases (per 100,000) and 16 new cases of syphilis (per 100,000). Third, STI incidence is reduced by male AIDS mortality, with an effect that is considerably larger among males than it is among females, suggesting that AIDS mortality slows down STI transmission in male homosexual networks, but not in heterosexual networks. In the end, I argue that the evidence for a causal relationship between male incarceration and Black female STI outcomes appears strong and consistent with theory.

### **Essay 3: “The Effect of Parental Involvement Laws on Sexual Debut, Contraceptive Use and Sexual Activity” (2006).**

The available evidence suggests that restrictions on abortion access reduced abortion rates among certain segments of the population. An open research question is whether restrictive abortion laws might reduce risky sexual behavior as well. The question is important and timely given the current debates regarding the over-the-counter sale of the Morning After Pill. The purpose of this essay is to test whether restricting abortion access causes females to increase their contraceptive frequency so as to avoid pregnancy.

Using panel data from the National Longitudinal Survey of Youth 1997 and confidential data from the Alan Guttmacher Institute on abortion providers at the county level, I estimate the effect of both laws requiring females to wait a prescribed amount of time before receiving an abortion (i.e., “mandatory delay laws”) and laws requiring females to alert their parents beforehand (i.e., “parental involvement/consent laws”) on females’ timing of sexual debut, contraceptive use at the debut, contemporaneous sexual activity and contemporaneous contraceptive use. Using panel data on individuals in the National Longitudinal Survey of Youth 1997 (NLSY), I estimate survivor models to measure the importance of abortion restrictiveness on sexual debut, and use difference-in-difference estimation to identify the laws’ effect on contraceptive choice and frequency.