A conceptual model for understanding how caste-based discrimination may underlie disparities of medical sterilization of SC/ST women in India

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Eugenics and Reproductive Suppression: Theory, Ideology, and Legacy

The term “eugenics” was first used in 1883 by Francis Galton, who defined it as “the study of the conditions under which men of a high type are produced.”¹ He was motivated to ensure that the affluent, better educated members of British society were reproducing at higher rates than the poorer members of society.² Since then, eugenics is generally defined as methods that focus on improving the human gene pool.¹ However, the definition has changed with its implementation. Eugenics can be used narrowly: just within the authoritarian, coercive regimes that avoid the births of certain people because of a trait, also called negative eugenics.¹ It can also be used more broadly with “liberal eugenics” which is based on people's free choices, and positive eugenics which encourages the reproduction of favored traits.¹ Taken together, these definitions of eugenics directly relate to reproductive choice, coercion, policies, and health outcomes. These broad definitions appear consistently represented across cultures around the world, including the Indian caste system, as will be discussed in this paper.

Eugenics movements are based on emphasizing the welfare of the population and minimizing individual rights.³ This is usually done by justifying the improvement of the health and genetics of a particular group for the benefit of that group’s future.³ The dominant countries studying eugenics (England, Germany, and the United States) utilized Mendelian eugenics.³ This method focused on eliminating unfit genes that parents could pass down to their children.³ In contrast, most of the developing world shaped their eugenics practices around Neo-Lamarckism.³ Beginning in France, this approach believed that human intervention could eliminate environmental factors that could harm the health of the dominant race.³ Older medical ideas that focused on improving the human race by controlling reproduction inspired modern eugenics.³ India is an example of a country whose eugenics policies were shaped by older reproductive ideas. Its eugenics policies can be traced back to the beginning of Hinduism and the caste system.

The Indian caste system is characterized by four traits: endogamy, occupational restriction, purity of blood, and restriction of caste mobility.⁴ Members of a certain caste, or subcaste, called Jatis, are required to marry within their caste, work the occupation of their caste and follow the customs and norms of interaction within and between castes.⁵ There are four main castes. The Brahmans at the top of the caste system are the priests and scholars in society.⁴
Kshatriyas are the political rulers and soldiers in India.⁴ Next are the Vaishyas, the merchants in charge of agriculture, cattle rearing, and trade.⁴ At the bottom are the Shudras, or laborers, peasants, artisans, and servants.⁴ Below the official ranks of the caste system are the Untouchables, who complete the necessary jobs in society that are deemed unclean and polluting.⁴

There are three origin theories for the Indian caste system. The religious theory begins with the ancient Hindu book, Rig Veda, which believes that a man named Purush created human society by sacrificing parts of his body.⁴ His head became the Brahman, his hands became the Kshatriyas, his thighs became the Vaishyas, and his feet became the Shudras.⁴ The biological theory believes that all existing things inherit one of three categories of qualities: Sattva, meaning white, which represents wisdom, intelligence, and other positive traits.⁴ Rajas, meaning red represents passion, pride, and valor and Tamas, meaning black, represents stupidity, a lack of creativity, and other negative traits.⁴ Brahmans are associated with Sattva, Kshatriyas, Vaishyas with Rayas, and Shudras with Tamas.⁴ The historical origins of the caste system can be traced back to the arrival of the Aryan people in India in 1500 BC.⁴ They established social and religious rules for society and grouped occupations.⁴ In the modern context, the caste system in India continues to be rationalized through religion.⁴ Caste is used to compete for access to resources, like education, jobs, and life chances.⁴ Preferential policies and uneven implementation of policies exist.⁴ There has also been more open hostility towards the lower castes in India as the castes have become more mixed.⁴ The Bharatiya Janata Party, the party currently in power in India has remained silent throughout these increased attacks on minority communities.⁵

The Indian caste system parallels the eugenic rhetoric espoused by authoritarian governments that believe in the purity of blood and restricting mobility within the social hierarchy. Caste assignments have been based on ancestry, but the origins of caste exist in selecting perceived positive traits in society.⁶ As the caste system expanded, these selected traits were protected in the higher castes through restrictive marriage practices, while the perceived inferior traits were collected in the lower castes.⁶ These perceived inferior traits are not physically identifiable.⁷ The Untouchables of India are marked by the belief that they are “ritually polluted,” not because of a physical trait.⁷ The discrimination within the social hierarchy reinforces these beliefs. These distinctions have created a highly stratified society. The
Untouchables are economically dependent and victims of exploitation and discrimination. Members of the Scheduled Caste make up \(\frac{1}{5}\) of India’s population and they are defined as socially and economically disadvantaged and in need of protection from social injustice and exploitation. Members of Scheduled Tribes are slightly different because they exist outside of the caste system, but they are often treated as an “untouchable.” Evidence suggests that these groups continue to be oppressed and deprived of respect, human dignity, and economic opportunities by the higher castes.

In this paper, I will explore the relationship between casteism and reproductive suppression through potentially coercive surgical sterilizations of lower-caste women in India. Following this introduction to casteism in India, I will describe the discrimination experienced by the lower castes, India’s population control policies, and their potential misuse of eugenics-motivated implementation of coercive reproductive suppression among lower-caste women. I will then develop a conceptual framework synthesizing the published literature to understand the relation between caste-based discrimination and surgical sterilizations among SC/ST women in India.

An overview of discrimination against lower caste populations in India; economic, health outcomes, education, and other key factors

Discrimination is an unequal treatment based on social structures that allow one group to maintain power and privileges over others. Members of the lower castes in India, including the Other Backward Castes (OBC), Scheduled Castes (SC), and Scheduled Tribes (ST), experience more discrimination than members of the General Castes. Compared to overall poverty rates in India, SC, and ST households experience higher rates of poverty. The disparities widen after data is adjusted for household size and composition, indicating that caste is a determining factor in creating differing poverty rates. Unequal access to education partially explains this disparity. A study looking at poverty rates in different castes found that the heads of SC and ST households have on average, one less year of schooling compared to the heads of General Castes households. Less education makes it more difficult for members of the lower castes to compete in the labor market. It is also a contributor to gross wage differences experienced by the lower
castes.\textsuperscript{24} Members of the SC and ST also have lower returns on education than other castes.\textsuperscript{24} Over time, the level of education required of them to be able to compete in the labor market has increased.\textsuperscript{24} This demonstrates that they are not experiencing equal education advantages.

More important than education in explaining the gross wage differences between castes in India is occupational discrimination (having unequal access to jobs) and wage discrimination.\textsuperscript{24} A study examining the Indian urban labor market found that occupational discrimination accounts for 35.4\% of gross wage differences.\textsuperscript{24} This has led to SC and ST workers being paid 15\% less than equally qualified workers from other castes.\textsuperscript{24} The study estimated that SC/ST workers could earn up to 13\% more if discrimination practices did not exist in the economy.\textsuperscript{24} To try and combat this disparity, the Indian government has set up a Reservation Program that ensures that there are jobs for the lower castes.\textsuperscript{24} However, this program only exists in the public sector, so discrimination in the private sector is much more pronounced.\textsuperscript{24}

In addition to exacerbating poverty rates and creating inequities in the economy, discrimination also produces negative health outcomes in the lower castes. Children in the SC, ST, and OBC have worse nutrition, health, and mortality indicators.\textsuperscript{27} Mortality rates for SC and ST children are 23.2\% and 35.8\%, respectively, while children from the higher castes have a 10.8\% mortality rate.\textsuperscript{27} Rates of diarrhea and anemia are also higher in the lower castes.\textsuperscript{27} A study observing the health profiles of women and children who identified as SC, ST, or Muslim found that rates of underweight children are 50\% higher in SC/ST groups.\textsuperscript{26} SC women have an 8\% higher incidence of undernutrition and ST women have a 12\% higher incidence.\textsuperscript{26} When religion is included, SC Muslims have the highest proportion of underweight children at 58\%.\textsuperscript{26} These rates remain constant after controlling for wealth, education, and access to health services, indicating that caste is a determinant of nutrition status.\textsuperscript{26} A possible pathway for these disparities is discrimination in accessing government services that provide food and healthcare assistance.\textsuperscript{26} Members of the lower castes experience the highest degrees of discrimination when obtaining prescriptions, scheduling diagnostic visits, receiving pathological tests, and accessing health information.\textsuperscript{27} Healthcare workers also perform fewer home visits for lower caste women and generally treat these patients with less respect and care.\textsuperscript{27} For example, SC children often face discrimination when they are trying to access mid-day meals at school.\textsuperscript{27} This discrimination can look like a denial of meals, requiring separate seating for SC/ST children, serving SC
children last, giving them an insufficient amount of food, or food that is of poor quality, and refusing to hire SC cooks.27 This discrimination contributes to the higher rates of undernutrition that SC and ST children face.26

Caste is one of the strongest social determinants of health.29 Higher-caste women have higher use of reproductive health services and better maternal health outcomes compared to women from the lower castes.29 Lower-caste Indian women face gender, caste, and socioeconomic status discrimination, all of which worsen their health outcomes.15 A study looking at the reproductive health profiles of SC and ST women also found significant differences in antenatal care, place of delivery, consumption of vitamins, and contraceptive devices between the SC and ST groups.21 In each category, SC women had an advantage over ST women, meaning that they were more likely to receive the recommended amount of antenatal care, deliver in a healthcare facility, consume the recommended amount of vitamins during pregnancy, and use contraceptive devices.21 Education attainment explains the disparities between these two groups.21 22.3% of SC women were literate compared to 18.2% of ST women.21 3.5% of SC women reached secondary education, while no ST women reached secondary education.21 Education helps women gain more awareness of their own health and their baby's health and increases the chances of them engaging in the before-mentioned maternal health practices.21 While rates of these practices were low in both groups, ST women were at a disadvantage.21

In acknowledgment of the health disparities felt by women in the lower castes, the Indian government passed a series of initiatives under the National Rural Health Mission to help women from the lower castes afford maternal healthcare.15 The Janani Shishu Suraksha Karyakram (JSSK) offered free maternal health services, and the Janani Suraksha Yojana (JSY) encouraged institutional deliveries through a cash incentive program.15 Accredited Social Health Activists (ASHA) were also introduced to help facilitate positive relationships between community members and doctors.15 However, there have been reports of low usage of these maternal health services.15 Through interviews with SC women in Bihar, some potential reasons for this low usage were revealed. The women reported a number of issues, including long wait times for services, limited numbers of ASHAs, transportation costs, poor access to information, lack of postnatal care, and unauthorized charges from healthcare staff.15 A few of the women perceived that these barriers to care were due to their caste status.15 While this was a very small sample
size, it demonstrates the discrimination that SC and ST women face in the Indian healthcare system. Another study investigating the JSY program found that it was insufficient in correcting inequities in maternal health programs.\textsuperscript{15-16} The study was examining regional differences in receiving benefits from the program. One region that it focused on was Jharkand, where 62\% of the population identifies as SC/ST.\textsuperscript{16} Jharkand had variable percentages of SC/ST women across the region.\textsuperscript{16} It also had low benefit receipt at 20\% and receipt ranged from between 5\% to 40\% in different areas of the region.\textsuperscript{16} The study found that receipt of JSY benefits concentrated in areas with higher-caste and wealthier women, demonstrating that the JSY was discriminatory against SC/ST women.\textsuperscript{16}

ST, SC, and OBC women experience more perceived discrimination, or distinct stressful life experiences of unfair treatment based on personal attributes.\textsuperscript{30} A study on pregnant women in rural Gujarat found that OBC women are twice as likely to experience discrimination as women in the General Castes.\textsuperscript{30} SC and ST women are four times more likely.\textsuperscript{30} The study also found that the discrimination women are experiencing in the lower castes is not openly acknowledged in Indian society.\textsuperscript{30} This has caused women to accept the unfair treatment that they are experiencing as a part of their life.\textsuperscript{30} Perceived discrimination extends to affect other parts of women’s lives including their maternal and reproductive health indicators. Whereas these indicators among SC/ST women have been studied to a greater degree, coercive reproductive suppression as a result of latent eugenic-based ideologies and cultural perceptions has not.

Coercive surgical sterilizations may be a result of discrimination. Forced surgical sterilizations are portrayed as being good for public health because they can reduce genetic defects and control population growth.\textsuperscript{18} In reality, the motivating reason for forced surgical sterilizations is to deny specific populations the ability to reproduce because of their perceived inferiority.\textsuperscript{18} Women who have been subjected to forced surgical sterilizations have approached the Indian court system to argue that their right to non-discrimination and equality in health services was denied.\textsuperscript{18} Despite this, the courts have not ruled that women who were forcibly sterilized have lost their right to be free of discrimination.\textsuperscript{18} This has allowed them to treat forced surgical sterilizations as individual cases, instead of as a systemic problem fueled by discrimination.\textsuperscript{18} Once discrimination is established as the motivator for forced surgical sterilizations, the marginalization of lower caste members will be exposed and structural reform
can begin. Until that happens, few changes can be made to help the reproductive health statuses of lower-caste women.

Relevance to the Indian context- India's focus on family planning and population control; controversial practices that have happened

Surgical sterilization is a procedure that permanently prevents the patient from reproducing. Surgical sterilization in women is called tubal ligation and surgical sterilization in men is called a vasectomy. In India, there are two types of female surgical sterilization used. Both permanently block the fallopian tubes to prevent fertilization. The first is called a Minilaparotomy, or a Minilap Tubectomy. A small incision is made in the abdomen and a portion of the fallopian tube is ligated and incised. This method is better known, and often encouraged because it is less risky, requires fewer expensive surgical instruments, and can be performed at any point in a woman’s life. The second method is a Tubal Occlusion, which inserts a small tube into the abdomen through an incision and then blocks the fallopian tubes.

Women also utilize modern and traditional methods of contraception in India, but at much lower rates compared to surgical sterilization. Modern reversible methods of contraception include the contraceptive pill, IUD, injectables, and condoms. Traditional methods refer to the rhythm method, withdrawal, and other folk methods. Modern methods are the most effective and safe as compared to traditional methods and surgical sterilization, but they are underutilized, due to misconceptions that they are not effective. As of 2014, the Family Planning Division in the Ministry of Health and Family Welfare in India reported that 34% of women using contraception had been surgically sterilized, 6.7% were using any traditional methods, 5.9% were using condoms, 4.2% were using a contraceptive pill, 1.9% were using IUDs, 1% of males had been surgically sterilized, and 46% of the population was not using contraception. In general, women are more likely to utilize surgical sterilization compared to modern contraception when they are poorer, less educated, Hindu, older, and live in rural areas. Cohort data has shown that women born in the years soon after the implementation of the Family Planning Program in 1952 were more likely to be sterilized compared to women from recent cohorts.
According to the National Family Health Survey from 2002, 24.8% of SC women are using contraception.\textsuperscript{8} 59\% of those women are using surgical sterilization, 23\% are using traditional methods, and 14\% are using a modern spacing method.\textsuperscript{8} According to a study observing contraceptive methods in SC women in Uttar Pradesh, 97\% of married women are knowledgeable about female surgical sterilization compared to 85\% being knowledgeable about contraceptive pills, 83\% about condoms and 74\% about IUDs.\textsuperscript{8} Only 30\% of the SC women in Uttar Pradesh were using contraception, and over half (53\%) of those women had been surgically sterilized.\textsuperscript{8} The most popular method of modern contraception among SC women was condoms.\textsuperscript{8} Contraceptive use was found to increase with increased levels of education and standard of living.\textsuperscript{8} When surveyed, 52\% of SC women said that they preferred surgical sterilization over modern spacing methods.\textsuperscript{8} In general, ST women use any method of contraception at lower rates than SC women because of their belief that children are a gift of God, and that preventing reproduction is a sin.\textsuperscript{21} These findings demonstrate the dominance of surgical sterilization as a contraceptive method among women, particularly SC women.\textsuperscript{8,12,21,32,33,35}

Family planning is a conscious choice that couples make regarding their family size and reproduction.\textsuperscript{20} Family planning programs are created with the goal of increasing the number of government resources per capita by decreasing population growth.\textsuperscript{20} Ideally, resources will then be allocated more equitably and living conditions will improve. Family planning programs can increase the quality of life of women and their families by providing women with the resources to control their reproduction.\textsuperscript{20} It must be accompanied by education and public awareness so that the stigma surrounding reproductive conversations is reduced.\textsuperscript{20} A useful way to measure the effectiveness of a family planning program is through unmet need, or the percentage of women that are not using contraception, but would like to use it so that they can postpone their next birth or stop childbearing.\textsuperscript{20} While unmet need varies across different regions in India, the national average in 2018 was 21\%.\textsuperscript{20} This represents the flaws within India’s family planning program. These flaws are especially discriminatory against SC/ST women.\textsuperscript{12} Lower-caste women experience a higher unmet need for modern contraception, which leads to them having worse reproductive health outcomes than women in the higher castes.\textsuperscript{12} Instead of focusing on women’s autonomy or health, India focuses on meeting contraceptive targets through coercive methods and capitalizing on stigma within a patriarchal society.\textsuperscript{20}
India’s family planning program began in 1952.\textsuperscript{34-35} It was the first official program created by a government with the aim of reducing population growth.\textsuperscript{34-35} The government believed that stabilizing population growth would allow the Indian economy to grow.\textsuperscript{20} To meet this goal, the government encouraged different types of contraception as the program advanced. The program began with a clinical approach.\textsuperscript{20} They introduced the rhythm method (which proved to be ineffective) and then began to offer condoms, diaphragms, and spermicidal jelly for free at hospitals and health clinics.\textsuperscript{35} IUDs were introduced in the 1960s.\textsuperscript{35} Use of these programs was low and the population was not slowing at the rate that the government had envisioned.\textsuperscript{20} Surgical sterilization for men and women and surgical sterilization targets for health workers was introduced in 1966 as a more aggressive method for combatting population growth.\textsuperscript{35}

By 1975, India’s problems had continued to worsen, politically and economically.\textsuperscript{10} The failure to curb population growth was believed to be the root of these problems.\textsuperscript{10} As a “solution,” President Indira Gandhi and her son, Sanjay Gandhi declared a national Emergency that gave the central government the right to execute family planning programs, i.e. mass surgical sterilizations.\textsuperscript{10} Gandhi’s hope was that the implementation of mass surgical sterilizations would reduce poverty and fuel economic development.\textsuperscript{10} Mass surgical sterilizations were achieved through surgical sterilization quotas that were issued to hospitals and healthcare providers in rural areas.\textsuperscript{10} These workers were threatened with withheld pay and healthcare and suspended driver’s licenses if they did not reach these quotas.\textsuperscript{10} Often, their salaries were determined by the number of surgical sterilizations they performed.\textsuperscript{10} The operations were done in unhygienic conditions with no follow-up care.\textsuperscript{10} The goal of this program was to complete the surgical sterilization, not to address the health of the patient. At this time, the majority of surgical sterilizations were vasectomies completed on men.\textsuperscript{17} Illiterate, poor, and SC men were targeted to be sterilized because of their perceived inferiority and expendability.\textsuperscript{17} Sterilization laws disguise eugenic aims when they are targeting a specific group to be sterilized.\textsuperscript{20} The law that initiated the Emergency was passed under the guise of controlling population growth, but it was implemented in a eugenic manner that targeted men from the scheduled castes.\textsuperscript{5,10,20}

The Emergency ended in 1977, but its effects were far-reaching.\textsuperscript{20} Mistrust in healthcare workers and family planning programs spread and the number of men willing to be sterilized dropped considerably.\textsuperscript{20} This decrease in vasectomies led to the rise of tubal ligations in Indian women, the dominant type of sterilization that continues today.\textsuperscript{20} In the 1980s, the shift to female
surgical sterilizations continued and incentive schemes were put in place to encourage women to get sterilized. In 1994, The International Conference on Population and Development with the United Nations began to eliminate target-driven programs and encouraged countries to focus their programs on reproductive health. In 1996, targets in India’s family planning program were officially eliminated. However, surgical sterilization continues to be the dominant form of contraception in India. Female surgical sterilization accounts for 72% of modern contraceptive methods. The number of women using surgical sterilization has increased with each edition of the National Family Health Survey from 27% in 1992-1993, 34% in 1998-1999, and 37% in 2005-2006. These percentages are disproportionately made up of SC and ST women. These women are more likely to be sterilized and to be sterilized at younger ages. By age 30, about 45% of SC/ST women are sterilized, compared to only about 30% of higher-caste Hindus. These discrepancies are due to the perceived inferiority of lower-caste women and the coercion and surgical sterilization targets that stem from those perceptions. Despite high rates of surgical sterilizations, there is little data to show that sterilizations have reduced fertility in India. Education and economic status have had tighter correlations with fertility reductions than sterilizations.

There are a number of controversial practices still happening across India today since the end of the Emergency. The family planning program continues to use a target-based approach, despite its elimination in the 1990s. Today, the targets are generally referred to as “Expected Levels of Achievement” and are set by lower-level authorities instead of the central government. These workers continue to feel pressure to reach these targets through any means necessary, which distracts them from focusing on other contraceptive methods and reproductive health education. Health workers target women who have had at least two children, one of them being male because they are most receptive to the idea of being sterilized. In order to achieve targets, they will offer compensation to women in exchange for getting sterilized. Compensation is offered for other forms of contraception, but the rates are much higher for surgical sterilizations. In addition, healthcare workers often provide women with false information about their contraceptive options to try and persuade them to be sterilized. This is especially prevalent in rural areas where illiteracy rates are high and women are more susceptible to misinformation. They are unable to read the written consent forms and must instead place their trust in their healthcare provider. Scheduled Tribe women who mainly live in the forested
and hilly regions of India are especially susceptible to these schemes.11,21 ST women are less likely to be literate and educated at the higher secondary level, making them easier targets for misinformation from healthcare workers.21 ST (and SC) women also have less access to reproductive health services, like vitamins, antenatal care, and delivery in a hospital.21 For these reasons, SC/ST are more reliant on surgical sterilization as contraception.12 Since providers are motivated by reaching their sterilization quotas, they are more likely to perform surgical sterilizations in areas of the country with high numbers of SC/ST women because their lack of social power makes them easier to coerce.9 This discrimination violates women’s right to make informed reproductive choices under Article 21 of India’s constitution.20

India only spends 2% of their total development budget on family planning, but 85% of the family planning budget is spent on surgical sterilizations.20,34 The government states that they use a “cafeteria” approach to reproductive health that allows women to choose what method of contraception works for them.14,37 In reality, surgical sterilizations are one of the only options available because of supply chain constraints that cannot support ongoing birth control and condom use and because men are not willing to get vasectomies.14,37 Despite these restrictions, higher-caste women tend to have greater access to other forms of contraception than SC/ST women.12,14,38 They have lower amounts of unmet need and experience better reproductive outcomes because of that.12,38 This can be partly attributed to their healthcare access. SC/ST women often have to rely on family welfare programs, which over-emphasize female surgical sterilization as a contraceptive method.12 It can also be attributed to how SC/ST women are perceived compared to higher-caste women. Women from higher castes are viewed as consumers who can purchase contraception.14 SC/ST women are viewed as subjects that need to be controlled, and thus, their contraceptive options are limited.14 The high rate of surgical sterilizations among SC/ST women is due to a lack of choice, not because they are making the choice to be sterilized.36

Gender bias exists in surgical sterilizations.20 Vasectomies are a safer and simpler surgery than tubal ligations, and yet less than 1% of men undergo vasectomies and 4 out of 10 women undergo tubal ligations.20 This represents a clear gender bias against women. This bias is a result of two social norms. Undergoing a vasectomy and losing the ability to have children is viewed as emasculating oneself.20 In addition, women are viewed as being easier to coerce.20 The combination of these two social views leads to women being targeted for surgical sterilization.
SC/ST women experience greater gender biases than higher caste women because of their lack of access to reproductive health information, general education, and legal recourse. Their caste status is an additional barrier to them advocating for themselves and getting the care that they need.

One of the most controversial practices in India is mass surgical sterilization camps. These were introduced during the Emergency when men were rounded up en masse to get vasectomies. Since the shift to the domination of female surgical sterilization use, surgical sterilization in camp settings is performed on women, particularly poor, lower caste women. Efficiency is the goal in these camps, so operations are usually performed quickly in unhygienic situations. Patients often receive little to no follow-up care. Community health workers are bribed with cars, money, and appliances to meet their surgical sterilization quotas at these camps, which results in them luring women with misinformation. Often, women will choose to come to these camps because they do not have the money or insurance to seek contraception elsewhere.

The most infamous sterilization camp occurred in Chhattisgarh, one of the poorest states in India, over two days in 2014. 137 women were sterilized, and 13 women died. Performing surgical sterilizations at this rate meant that doctors were not properly cleaning and preparing their instruments. This resulted in 68 women being treated for septic shock after the surgery. The incident was reported to the government and the ensuing investigation revealed that the camp did not have running water, was using rusty instruments, and was not providing care to women after the surgery. The women selected for these camps were not selected at random. All of the women were poor and had been coerced into receiving the surgery after money was promised to them. Many of the women also belonged to SC/ST or OBC. They were targeted by the health workers at the camp because of their before-mentioned vulnerability to coercion because of their lack of education. The events in Chhattisgarh are well known because of the high mortality rate. But, highlighting it can take away from the systemic nature of the sterilization camp violations. The mindset of sterilization camps being a micro-level problem needs to change if these violations are going to stop.

Discontinuation of sterilization camps occurred in 2016 after the Devika Biswas vs. Union of India case was decided. The case was motivated by an incident similar to the Chhattisgarh case: fifty-three lower caste women were sterilized by one doctor in under two hours in a middle school with no running water. All of the women were either SC, OBC or
below the poverty line.20 They were left in considerable pain and some suffered miscarriages and profuse bleeding.20 The women had been lured there by promises of free medical care.20 The court found that 1,434 women had suffered surgical sterilization-related deaths between 2003 and 2012 and that gender bias in surgical sterilization was discriminatory against women.17 The court made three orders. First, sterilization camps would end in the following three years.17 Second, that surgical sterilization targets would not be achieved through coercion, and third, that a counselor should be present at surgical sterilizations in addition to the surgeon.17 Despite this achievement, there is still the question of whether cases like this will truly correct India’s patriarchal approach to reproductive health.14,39 The fertility of poor, lower-caste women is still seen as creating India’s population growth and development crises.14 But, they are also viewed as the solution: by reducing their ability to reproduce, population growth can be slowed and development can grow.14

These perceptions of the fertility of lower caste women being an obstacle to Indian progress have led to its exploitation in the labor force.14 Contemporary population control initiatives are focused on women’s labor as being the key to economic growth.14 Women’s participation in the Indian labor force has been historically low, and it is now being viewed as an “untapped source.”14 Instead of offering lower-caste women more economic opportunities, these policies are further limiting their mobility and forcing them to work low-wage jobs.14 Reducing a woman's fertility is believed to increase the chances of her ability to work, which has increased the number of SC/ST women who are being targeted for surgical sterilization.14 SC/ST women have been devalued and dehumanized to the point that they are viewed as subjects whose fertility must be controlled so that they can be exploited for labor.14

Contrary to this belief that reduced fertility correlates with increased labor, evidence has shown that surgical sterilizations can reduce women’s participation in the workforce.22 One study examining the repercussions of the Emergency on women’s labor force participation found that exposure to the Emergency campaign reduced female involvement in agricultural occupations by 4.5% and sales occupations by 1.5%.22 Exposure increased overall unemployment by 4.7%.22 These decreases were predominantly found in low-wage and unskilled jobs that the majority of SC/ST women work.22 The hypothesized pathway for this data is the removal of a woman’s bargaining power when she is sterilized.22,34 Culturally, a woman's main power in her household is her fertility and her ability to provide sons for her husband.22 If she is able to provide this
service, her husband is more willing to let her work outside of the home.\textsuperscript{22} If she is sterilized before she can have a son, or before her husband is done having children, her bargaining power is gone and she is less likely to receive permission to work outside of the home.\textsuperscript{22} This evidence counters the belief that all contraception benefits women.\textsuperscript{22} When the contraceptive method is coercive, it disadvantages women more than it helps them.\textsuperscript{22}

India’s use of surgical sterilizations in its Family Planning Program can be somewhat understood using the Malthusian Population Theory.\textsuperscript{20} This theory states that there are two ways to control population growth and bring it to a sustainable level.\textsuperscript{20} Positive checks are anomalies that lead to high mortality rates, like war or epidemics.\textsuperscript{20} Preventative checks are voluntary actions taken by the population to avoid population growth.\textsuperscript{20} India’s mass surgical sterilization programs could be interpreted as a preventative check on population growth.\textsuperscript{20} But, the high number of forced surgical sterilizations counters the idea of these being voluntary actions. A better way of understanding India’s surgical sterilization programs is Neo-Malthusianism.\textsuperscript{14} This theory describes actions that are taken out of fear that a large population size could lead to a humanitarian or ecological disaster.\textsuperscript{14} The Indian government has perceived population growth to be its greatest threat and they have taken drastic measures to counter it.\textsuperscript{14}

Studies have shown that family planning policies are suppressing the reproductive freedom of SC/ST women in India through coercive surgical sterilizations.\textsuperscript{4,5,7,9-26} Discrimination, population fears, and the health system's limitations in offering other forms of contraception have fueled surgical sterilization use.\textsuperscript{5,10,14,18,20,21,37} Sterilization’s long history combined with the lack of reproductive health education in India has led to the normalization of surgical sterilization as contraception.\textsuperscript{10,13,14,20,21,23,35,37} Surgical sterilization is practiced in all castes in India.\textsuperscript{9,35,40} However, coercive and forced surgical sterilizations are directed at the lower castes because of their perceived inferiority and the perceived need to control their reproduction.\textsuperscript{5,7,9,10-14,17-21} Resolving these issues will require broad structural reform that must begin with addressing discrimination’s role in India’s family planning policies.\textsuperscript{18}

Research-based evidence of coercive reproductive suppression that aligns with eugenics expectations among women in India
In terms of population data, greater numbers of higher caste women are surgically sterilized compared to SC/ST women.³⁴ But, the number of sterilized SC/ST women represents a greater proportion of their population compared to the proportion of higher caste women that are sterilized.⁹,³⁴ These disproportionately higher rates of surgical sterilization among SC/ST women relative to others may reflect the targeting of SC/ST women for coercive surgical sterilizations due to their perceived inferiority and vulnerability. Data from national surveys conducted in 2016 show that by age 30, 45% of SC/ST women have been sterilized, compared to only about 30% of higher caste women.⁹ This disparity is also reflected in the age difference at which women from different castes are sterilized.⁹ SC/ST women are more likely to be sterilized at younger ages, with the rate of surgical sterilization at younger ages exhibiting a steeper slope relative to higher caste women.⁹ ¹

Surgical sterilization negatively affects women’s health, especially SC/ST women.³⁴ Surgical sterilization can affect ovarian function and create menstrual and menopausal symptoms.³⁴ It can also create psychological and emotional pain, including sterilization regret.³⁴ The most frequent physical symptoms experienced by women after surgical sterilization are lower back pain, vaginal discharge, menstruation problems, and pain in the abdomen.³⁴ These symptoms increase between 50 and 100% after sterilization.³⁴ Compared to other contraceptive methods, surgical sterilization creates the highest percentage of women reporting side effects at 17%.³⁴ Lower back pain increased by 9.3% after surgical sterilization and menstrual issues increased by 16.1%.³⁴

SC/ST women experience more adverse consequences from surgical sterilizations than higher-caste women.³⁴ Adverse symptoms post-sterilization increase by 11% for SC/ST women.³⁴ This additional harm is due to poor quality of care.³⁴ SC/ST women are more likely to be sterilized in a sterilization camp compared to a private health facility.³⁴ Because of this, they are more likely to lack follow-up care, and thus experience more side effects.³⁴ Living in a rural area and lacking a formal education (qualities that most SC/ST women possess), also exacerbate the adverse effects of surgical sterilizations because women do not have the resources or skills to support their health after the operation.³⁴

Sterilization regret is a more frequently studied adverse effect of sterilization in high-income countries, despite sterilization’s dominance as a contraceptive method in low and middle-income countries.³⁵ The percentage of sterilized ever-married women ages 15-49
reporting sterilization regret has increased from 4.6% in the 2005-2006 Indian National Family Health Survey (NFHS) to 6.9% in the 2015-2016 survey. This increase in regret is driven by the increase in women being sterilized at younger ages. Because of the lack of non-permanent contraception in India, couples have their children in quick succession at younger ages and then are sterilized after the last birth. Younger age has been independently associated with sterilization regret, so as the age at surgical sterilization continues to decline, regret is predicted to increase. Due to SC/ST women being disproportionately sterilized at younger ages compared to higher caste women, SC/ST women reported sterilization regret at higher rates than women from higher castes in the 2015-2016 Indian National Family Health Survey. 6.9% and 6.7% of SC and ST women, respectively, reported regret compared to 6.4% of women from other castes. ST women were 1.26 times more likely to regret sterilization.

There are a number of demographic trends that are associated with increased or decreased rates of sterilization regret other than age. In general, women who only had female children, lost a child, received low-quality care after surgical sterilization, had less than a high school education, and were separated or divorced are more likely to regret their sterilization. A study examining social and demographic characteristics and their association with sterilization regret found that the gender of the child, child loss, and region of residence were independently associated with sterilization regret. Having a son in India is highly valued and many women will not cease childbearing until she has had at least one male child. If women are coerced or forced into being surgically sterilized before they can have a son, they are more likely to regret their sterilization. Women who had only daughters were 1.28 times more likely to experience sterilization regret. If a woman does not believe that her child (especially sons) will survive past childhood, she will want the option to have another child and will be less willing to be surgically sterilized. If women are not given that option, they will be more likely to regret their sterilization. Women who had lost one child were 1.58 times more likely to regret and if they had lost 2 or more children, they were 2 times more likely to regret their sterilization. Living in the Northeast region of the country increased the odds of women experiencing regret. The study hypothesized that this was due to the low fertility in this area. Other variables can decrease sterilization regret. Women who have high parity, received good quality of care after their surgical sterilization, received compensation for their surgical
sterilization, were operated on in a private facility, were older than 30, and had both sons and daughters were less likely to regret their surgical sterilization.35,40,41

Quality of care is one of the most important variables determining sterilization regret for women.33 In the NFHS-IV in 2015-2016, 20.2% of sterilized women who reported regret also reported bad quality of care.33 For comparison, only 7.8% of sterilized women who reported very good care regretted their surgical sterilization.41 In the NFHS-III, 7% of regret in public facilities was due to poor quality of care.33 With “very good care” as the reference, “all right care” was found to be protective with sterilization regret, while “not so good care” and “bad care” increased the chance that the woman would regret her surgical sterilization.33 Women were 2.39 times more likely to regret their surgical sterilization if they received bad quality of care.33 Overall, quality of care was determined to be the most important determinant in explaining regret among sterilized women.

The normalization of surgical sterilizations has contributed to the normalization of permanent reproductive solutions, and in turn, the rising prevalence of hysterectomies.23,34,38 In addition, hysterectomies have been normalized in India due to weak sexual and reproductive health services, cultural perceptions that the post-reproductive uterus is dispensable, and a lack of knowledge about the side effects of hysterectomies, such as an increased risk of menopause, stroke, and cardiovascular disease.23 The history of surgical sterilization in India is a possible pathway to hysterectomy prevalence.23 Sterilized women were more comfortable with the idea of hysterectomies as a treatment option.23 In a study examining the association between surgical sterilization history and hysterectomy prevalence, women who had not been sterilized were not as likely to get a hysterectomy compared to women who had been sterilized.23 In addition, the rate of sterilized women who got a hysterectomy was 27.9/1000 compared to 11.5/1000 unsterilized women who got a hysterectomy.23

Healthcare providers view hysterectomies as a one-time cure for all gynecological issues that poor women from rural areas might have in the future.23 Their belief is that these women should use a permanent reproductive solution because they do not have regular access to health care.23 Women often comply because they view their uterus as a liability that could make them unable to work in the future.23 In contrast, wealthier women living in urban areas have the resources to try other reproductive options, and providers accommodate that.23 Just as poor, rural,
and lower-caste women are targeted for surgical sterilizations because of their vulnerability and perceived inferiority, these groups are also targeted for hysterectomies for the same reasons.\textsuperscript{42} SC/ST women in India are disproportionately targeted for surgical sterilizations and disproportionately harmed by them.\textsuperscript{5,9,10,14,17,20,33,34,40} This discrimination displays the Family Planning Program’s desire to control the reproduction of lower-caste women.\textsuperscript{4,5,7,9-27} Because of the other forms of discrimination experienced by SC/ST women that make them more likely to be impoverished and illiterate, they do not have the skills and power to protect themselves from these coercive actions.\textsuperscript{9,12,14,18,20,21,25,26,30,36}

Conceptual model

This flowchart demonstrates how the Indian caste system has become eugenics-based through coercive surgical sterilizations of lower-caste women. The caste system created a strict social hierarchy that subjects members of the Scheduled Castes and Scheduled Tribes to reproductive discrimination. Women from these castes are seen as inferior and are thus targeted for sterilization campaigns that aim to reduce the population growth of these particular groups. Because of the coercive nature of these sterilization campaigns, SC/ST women experience higher rates of sterilization regret. Due to the suppression of the births of SC/ST women, the Indian caste system is practicing a eugenics-motivated Family Planning Program.
Relevance of paper, future directions

In the early to mid 1900s, the U.S. used surgical sterilizations to control the reproduction of mentally ill patients. In 1924, the case Buck v. Bell was passed, which gave states the power to surgically sterilize anyone they deemed “unfit to be parents.” Lawmakers and medical professionals made the sterilizations seem beneficial to patients, arguing that sterilization would allow them to live outside of the hospital without fear of pregnancy. Sterilization could not actually have been beneficial, as it was not practiced on prisoners, for fear of violating the Eighth Amendment through use of cruel and unusual punishment. About 60,000 people were surgically sterilized in the U.S before World War II. During this time, other western countries including Canada, Sweden, Australia, Norway, Finland, Estonia, Slovakia, Switzerland, and Iceland all had laws allowing for the coerced or forced sterilization of mentally disabled patients, racial minorities, and patients with other physical illnesses.

Throughout World War II, the Nazi regime sterilized at least 400,000 people including the mentally ill and disabled, the deaf, persons with tuberculosis, homosexuals, gypsies and Jews. The Nazis used sterilization to cleanse the German population of those not considered “Aryan” and promote Aryan racial superiority. After the end of the war revealed the horrors of the Nazis, the U.S ended state-based sterilization programs. Despite this, coercive surgical sterilizations did not end. There have been many reports of poor, rural women being coerced into sterilization through a non-profit organization called Birthright. Additionally, minority women, including Native American, African American, and Mexican immigrant women have been targeted for coercive sterilizations.

Many low and middle-income countries have also engaged in coercive sterilization practices. In the late 1970s, the Chinese Communist Party instituted their one-child policy to try and curb their population growth. To enforce this policy, the government sterilized 222 million people. The majority were women. Women and men were coerced with incentives and disincentives if they did not comply with the policy. In 2002, China adopted a new Population and Family Planning Law that claims to be free of coercion. However, similarly to India, coercion is still rampant throughout the country.

Other targeted populations for sterilization include women with two or more children in Uzbekistan, Romani women in Czechoslovakia, indigenous peoples in Peru and Brazil, and those suffering with AIDS and Leprosy. Other countries like Puerto Rico and Singapore used coercive
methods to convince women of childbearing age to be sterilized due to fears of overpopulation and poverty. This sampling of countries utilizing coercive sterilizations demonstrates the systemic nature of this problem. What these sterilization programs have in common is their violation of the rights of women as patients.

The Human Rights in Patient Care Framework (HRPC) outlines the human rights that people have when they are being treated as medical patients. Forced and coercive surgical sterilizations violate four concepts within the framework. The first is the protection of vulnerable marginalized populations in healthcare settings. Governments that utilize coercive sterilizations are taking advantage of the vulnerability of these populations, not protecting them. The second is the rights of medical providers. Their rights are being violated when they are threatened with loss of pay or employment by their government if they do not meet sterilization quotas. The third concept is the role of the government in addressing and correcting health care violations and discrimination. Governments that promote and encourage the coercive or forced sterilization of vulnerable populations are encouraging health care violations, not correcting them. Finally, forced and coercive sterilizations are violating international human rights, including the rights to health, information, liberty and security of person, non-discrimination and equality, and the right to be free from cruel, inhuman, and degrading treatments.

Coercive surgical sterilizations in India violate these international human rights through practices like not guaranteeing informed consent, discriminating against and targeting vulnerable populations, taking advantage of illiteracy among lower-caste women, and not providing proper care to sterilization patients. What furthers the uniqueness of India’s sterilization problem is its connection to the cultural foundations of the country. The caste system in India, which has existed for hundreds of years, still enforces the social hierarchy that makes SC/ST women vulnerable to discrimination. This vulnerability has led to the Indian government targeting these women for surgical sterilizations. Until reproductive discrimination is publicly identified as the motivating factor in surgical sterilizations among lower-caste women in India, this systemic issue cannot be resolved.

This paper has outlined a conceptual framework explaining how the Indian caste system may be using eugenic methods to control India’s population growth by targeting SC/ST women
for coercive surgical sterilizations. As a result, SC/ST women experience disproportionate surgical sterilizations at younger ages, higher rates of sterilization regret, and poorer quality care.

Future directions for this work will include demonstrating how the caste-system operates within different types of hospitals in India. I will use data from government and private hospitals to find a correlation between hospital type and level of discrimination and coercion directed at lower-caste Indians. Poor quality of care, discrimination, and coercion will be measured by assessing sterilization regret among women who were sterilized in a government hospital. The exposure for the study will be hospital type and the outcome will be sterilization regret. I will hypothesize that lower-caste women surgically sterilized at government hospitals will experience higher rates of sterilization regret because of the level of mistreatment, coercion and discrimination they encounter.

The foundational knowledge for this study is the documented mistreatment of lower-caste pregnant women in government hospitals. They are more likely to experience verbal and physical abuse, shaming for fertility practices, and general discrimination in delivery rooms. They are also more likely to be coerced into having an IUD placed or to have it placed without their knowledge or consent. In comparison, women from higher castes are less likely to experience mistreatment because of the assumption among hospital staff that they will be smarter about their fertility and will not need to be forced into using contraception. Possible reasons for this unequal treatment are hospital staff burnout, a lack of training and culture of abuse among staff, and India’s highly unequal society that makes it acceptable to victimize lower-caste people. This study will attempt to understand the possible correlation between the mistreatment in government hospitals and the higher rates of sterilization regret among SC/ST women. If my hypothesis is supported by the data and government hospitals are coercing more SC/ST women into being sterilized (as measured by sterilization regret) compared to other hospital types, this study could add to the evidence that the Indian government is using eugenic methods to control its population growth.
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