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GLOBAL LEGAL RESPONSES TO PRENATAL GENDER IDENTIFICATION AND SEX SELECTION

Seema Mohapatra, JD, MPH*

INTRODUCTION

Over one hundred million women in the world are estimated to be “missing” from the world’s population due to some form of gendercide.¹ Gendercide exists on almost every continent and affects every class of people.² Gendercide has traditionally taken the form of sex-selective abortion, infanticide, or death caused by neglect.³ Sex-selective abortions occur when a pregnancy is terminated due to the sex of the fetus.⁴ In the last few decades, technological advances have allowed potential parents to identify the gender of their baby early in the first trimester. Recently, with the advent of newer technology that allows one to choose a baby’s gender, such as preimplantation genetic diagnosis (“PGD”) and MicroSort, it is possible for those who can afford it to select their child’s gender instead of resorting to getting rid of a fetus of an unwanted gender. Although there are certainly individuals who wish to have daughters over sons,⁵ most cultures have historically preferred having male children. Attitudinal surveys,

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¹ Maneesha Deckha, *(Not) Reproducing the Cultural, Racial and Embodied Other: A Feminist Response to Canada’s Partial Ban on Sex Selection*, 16 UCLA WOMEN’S L.J. 1, 11 (2007). The term gendercide refers to the systemic killing of members of a certain gender. See *Gendercide: Killed, Aborted, or Neglected, at Least 100m Girls Have Disappeared—and the Number is Rising*, THE ECONOMIST, (Mar. 4, 2010), available at <http://www.economist.com/node/15606229> [hereinafter *Gendercide*].

² *Gendercide*, *supra* note 1.

³ Deckha, *supra* note 1, at 11.

⁴ Joseph Chamie, *The Global Abortion Bind*, YALE GLOBAL ONLINE (May 29, 2008), <http://yaleglobal.yale.edu/content/global-abortion-bind>.

⁵ Jasmeet Sidhu’s Slate article, *How to Buy a Daughter*, centers on the struggles of one woman, Megan Simpson, a nurse whose name was changed for privacy purposes, who was one of four sisters and longed for a baby girl of her own. See Jasmeet Sidhu, *How To Buy A Daughter*, SLATE (Sept. 14, 2012, 3:30 AM),

taken periodically since the 1930s in the United States, reveal a sustained and marked preference for male children over female children.⁶

This preference is especially marked in Asian countries, such as China and India.⁷ In these countries, there exists a strong son preference.⁸ In rural communities in China and India, the need for hard labor historically caused families to prefer to have sons.⁹ Also, often inheritance rules allowed only sons to receive land, which also lead to son preference.¹⁰ In India, traditionally, a bride's family was expected to give the groom's family money and gifts as dowry.¹¹ Although dowry is now technically illegal in India, this expensive practice continues, which adds to the financial reality that having a daughter is a burden while having a son is a potential boon.¹²

This strong cultural preference, coupled with the modern desire for a smaller family and the availability of technology that discloses the sex of the fetus early in pregnancy, has resulted in an increase in sex-selective practices.¹³ Before the advancement of technologies to identify the

http://mobile.slate.com/articles/health_and_science/medical_examiner/2012/09/sex_selection_in_babies_through_pg_d_americans_are_paying_to_have_daughters_rather_than_sons_.html. Based on her family history, she always assumed she would have a girl and was surprised when her first child was a boy. *Id.* She and her husband tried again and she birthed another son. *Id.* Desperate, the couple paid \$800 for a procedure that promised results by the use of a protein solution thought to inhibit the swimming speed of X-carrying chromosomes. *Id.* However, this procedure failed and Simpson gave birth to a third son. *Id.* The news was so difficult that Simpson could not longer stand to be around women giving birth to daughters at work and had to transfer departments. *Id.* Simpson used PGD to try to have a daughter. *Id.* All the embryos were found to be "chromosomally abnormal" and could not be used. *Id.* She only became pregnant with her daughter after using a mixture of sperm sorting techniques and in vitro fertilization. *Id.* Achieving her dream of having a daughter cost Simpson four years of waiting and \$40,000, some of which was taken out in loans. *Id.* Simpson claims her daughter was "worth every cent." *Id.*

⁶ Deckha, *supra* note 1, at 11. This preference includes a desire for first-born sons and for additional sons if there are an unequal number of children in a family. *Id.*

⁷ *Gendercide*, *supra* note 1.

⁸ *Id.*

⁹ *Id.*

¹⁰ *Id.*

¹¹ *Id.*

¹² *Id.*

¹³ *Gendercide*, *supra* note 1. This trend resulted in a "malign combination of ancient prejudice and modern preferences for small families." *Id.*

sex of a fetus, the imbalance in ratios was attributed to killing or neglect of female infants.¹⁴ However, since the development of medical technology in the early 1980s, the availability of ultrasounds and other diagnostic technologies that can detect the sex of a fetus have accelerated the sex-ratio imbalances at birth in some parts of the world.¹⁵

Despite the economic growth in India and China, daughter discrimination continues to be a reality.¹⁶ Girls that are carried to term can be subjected to biased feeding practices, inadequate clothing, and lower-quality health care provided to them.¹⁷ In China and India, over 120 males are born for every 100 females.¹⁸ This difference is far greater than the natural probability of having a boy over a girl and is most likely due largely to sex-selective abortion and infanticide.¹⁹ The World Development Report (“WDR”), published annually by the World Bank, estimates that there are almost four million “missing women” annually in the world as a result of sex-selective abortion and high female mortality rates alone.²⁰ According to WDR, 1.43 million girls are eliminated due to gendercide.²¹ In the parts of the world where there exists a strong son preference, these statistics suggest that prenatal gender identification technology is being used mainly to restrict female births and promote male births.

This Article examines the issue of gender selection technology. If the technology is available to choose a child’s gender, is there any reason to restrict access to such technology? Does the answer depend upon how the technology is being used? Many countries have attempted

¹⁴ *Preventing Gender-Biased Sex Selection: An Interagency Statement OHCHR, UNFPA, UNICEF, UN Women and WHO*, WORLD HEALTH ORGANIZATION, DEPARTMENT OF REPRODUCTIVE HEALTH AND RESEARCH, 3-4 (2011), http://whqlibdoc.who.int/publications/2011/9789241501460_eng.pdf [hereinafter *UN Statement*].

¹⁵ *Id.*

¹⁶ J.P., *Gender Inequality: Growth Is Not Enough*, THE ECONOMIST, (Sept. 19, 2011), <http://www.economist.com/blogs/newsbook/2011/09/gender-inequality> [hereinafter *Gender Inequality*].

¹⁷ *Id.*

¹⁸ Deckha, *supra* note 1, at 11.

¹⁹ *Id.* As a result, China has as many unmarried young males as there are total males in the United States. *Id.*

²⁰ *Gender Inequality*, *supra* note 16. The high female mortality rates are attributed to female babies not being fed and neglected compared with male babies. *Id.*

²¹ *Id.* The number of missing females continues to rise in China, India, Europe, the Middle East, and other parts of Central Asia. *Id.*

to curb this issue through legislation restricting sex-selective abortions, and some have even gone further to restrict access to ultrasound and other gender identification technology. This Article provides a global overview of such restrictions and examines their bioethical implications.

Part I of this Article discusses the practice of sex selection and its impact worldwide. This part examines the impact of sex-selective practices on birth rates in various countries, including the United States. Then, Part II outlines the technological methods available to identify or even choose a child's gender and what this means for the practice of sex selection. Part III discusses legal efforts to restrict sex selection in India, the United States, and other countries around the world. Part IV analyzes these legal efforts through a bioethical lens, specifically giving consideration to autonomy, justice, and class issues. Although the practice of sex-selective abortion or sex selection is certainly disturbing, this Article concludes that restricting access to the technology that allows sex selection is not an effective answer.

I. SEX SELECTION AND ITS PREVALENCE WORLDWIDE

Sex-selective abortion, which is also sometimes known as feticide or gendercide, is the practice of terminating a pregnancy based on the predicted sex of the baby.²² As mentioned above, the selective abortion of females is more common in countries, like China and India, whose culture values male children over females.²³ While sex-selective abortion statistics are not well tracked, the male-to-female ratios in many countries suggest sex-selective practices.²⁴ When examining whether sex-selective practices are being used in a population, the sex ratios within a population are instructive. The normal male-to-female sex ratio should fall within a narrow scope

²² See Kristin Lemoine & John Tanagho, *Gender Discrimination Fuels Sex Selective Abortion: The Impact of the Indian Supreme Court on the Implementation and Enforcement of the PNDT Act*, 15 U. MIAMI INT'L & COMP. L. REV. 203 (2007)

²³ *Id.* at 215-216.

²⁴ *Id.*

of 104 to 107 boys to every 100 girls.²⁵ When these ratios are skewed within a population, this often suggests the use of sex-selective abortions or other sex-selective practices.²⁶

A. China

Traditionally, Chinese families have favored sons as a form of social security to take care of elderly parents and to carry on the family name.²⁷ In the 1960s and 1970s, China had an average of 106 boys for every 100 girls.²⁸ By the 1990s, that ratio had changed to 115 boys for every 100 girls.²⁹ In 2000, China's average ratio increased to more than 125 boys to 100 girls.³⁰ In some provinces, the ratio was actually 136 boys to every 100 girls born.³¹

China instituted a maximum one-child policy to restrain population growth in 1979.³² The policy included several restraints involving the government in every aspect of family planning from conception to delivery.³³ Restraints included a requirement that couples must be married to obtain a "birth permit," a mandatory use of intrauterine devices to prevent further pregnancy, compulsory pregnancy tests administered by the government, and forced abortions if a woman becomes pregnant a second time.³⁴ Although this policy was implemented in 1979, it was not officially codified until 2001 as the Law of the People's Republic of China on

²⁵ Chamie, *supra* note 4.

²⁶ *Id.*

²⁷ Chamie, *supra* note 4.

²⁸ *Id.*

²⁹ *Id.*

³⁰ *Id.*

³¹ *Id.*

³² Raina Nortick, *Singled Out: A Proposal To Extend Asylum To The Unmarried Partners of Chinese Nationals Fleeing The One-Child Policy*, 75 *FORDHAM L. REV.* 2153, 2156-57 (2007). Ironically, the history of China's one-child policy began in 1949 when China wanted to urge couples to have *several* children. *Id.* at 2156. This policy was sparked by the establishment of the People's Republic of China and the idea that people made the nation great. *Id.* However, the policy worked a little too well and between 1949 and 1979, China's population grew from 540 million to over 800 million—a number threatening to cripple China's economy. *Id.* at 2157.

³³ *Id.* at 2157.

³⁴ *Id.*

Population and Family Planning.³⁵ It has been highly effective in controlling the population thus far.³⁶ However, it has led to a very skewed male population because of the son preference in China.

B. India

India has received much negative international media attention regarding sex-selective abortion and gendercide. Although discrimination against female children has existed in India for centuries, female infanticide (the killing of a female child in its early years) was first documented in the early eighteenth century.³⁷ As medical technology has improved, infanticide has been replaced largely by feticide and sex-selective abortion. After ultrasound machines became available in India, sex-selective abortions became much more common.³⁸ In one study in the city of Pune, India, 430 of the 450 women who were told that they were having a daughter chose to have an abortion, while all 250 women who were told that they were carrying a boy chose to continue their pregnancies.³⁹ Another study showed that in Mumbai, India, in 1986, of 8000 abortions that were preceded by amniocentesis, 7999 of the aborted fetuses were female.⁴⁰

Just as in China, India's sex ratios indicate that sex-selective abortions are taking place.⁴¹ In 2004, the sex ratio of Delhi was 818 girls to 1000 boys; although this does not directly reflect sex-selective abortion statistics, the skew in numbers can most likely be attributed to the

³⁵ *Id.* at 2158.

³⁶ *Id.* at 2159.

³⁷ Lemoine & Tanagho, *supra* note 22, at 207.

³⁸ *Id.* at 209.

³⁹ Lemoine & Tanagho, *supra* note 22, at 210-11 (citing Lakshmi Lingman, *Sex Detection Tests and Female Foeticide: Discrimination Before Birth*, INDIAN J. S. W. (1991)).

⁴⁰ Lemoine & Tanagho, *supra* note 22, at 211 (citing Farhat Moazam, *Feminist Discourse on Sex Screening and Selective Abortion of Female Foetuses*, 18 BIOETHICS 205, 209 (2004)).

⁴¹ Chamie, *supra* note 4.

practice.⁴² The national male-to-female ratio has gone from 102 males to 100 females in the 1950s to 108 males to 100 females in 2008.⁴³ In certain urban areas, the ratio is 111 males to every 100 females.⁴⁴ In the state of Punjab, the sex ratio is 126 boys to 100 girls.⁴⁵ In Haryana, the ratio is 122 boys to 100 girls.⁴⁶

In India, the gender ratios seem to differ with religion. Within the Sikh population in India, the ratio is 127 boys to 100 girls, while amongst the Christian population, the ratios are much more even, as low as 104 boys to 100 girls.⁴⁷ These average ratios skew even more dramatically when discussing a second or third child.⁴⁸ If the firstborn child is a girl, the male to female ratio increases to 132 boys to 100 girls.⁴⁹ If the first child and second child born were both female, the sex ratio for the third child increases even more to 139 boys to 100 girls.⁵⁰

Due to the skewed sex ratios, there is a shortage of eligible women for men to marry in certain areas of India and China.⁵¹ By 2020, there will be an estimated surplus of about thirty-five million males in China and twenty-five million males in India.⁵² The disproportion of male representation that results from sex selection also impacts partnership or marriage by women and men.⁵³

⁴² Lemoine & Tanagho, *supra* note 22, at 214 (citing Sabu M. George, *Hidden Genocide*, TIMES OF INDIA, Mar. 8, 2007, at 18).

⁴³ Chamie, *supra* note 4.

⁴⁴ *Id.*

⁴⁵ Chamie, *supra* note 4.

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ *Id.*

⁴⁹ *Id.*

⁵⁰ *Id.*

⁵¹ Chamie, *supra* note 4. Some have expressed concerns that men in these communities may resort to extreme measures—such as marrying child brides, importing “mail-order” brides from other regions, or turn to crime, human trafficking, and bride kidnapping to find a mate. *Id.*

⁵² *Id.*

⁵³ *Gender Inequality*, *supra* note 16 at 3-4. There are a lack of women to marry and therefore have to be trafficked in from other countries or in some instances men share wives. *Id.*

C. United States

The number of sex-selective abortions that occur in the United States is difficult to determine as women are not required to disclose the reasons for choosing abortion.⁵⁴ However, some statistics suggest there may be evidence of sex selection in the Asian American population.⁵⁵ Although the sex ratios of the oldest child in U.S.-born children of Chinese, Korean, and Asian Indian parents do not suggest sex selection, the ratio for subsequent children do suggest that gender-selection practices may be at play.⁵⁶ In these populations, if there was no previous son, the second or third child was more often male than should be if sex selection was naturally occurring.⁵⁷ If the first child was a girl, the sex ratio for the second child was 1.17 favoring males.⁵⁸ If the first two children were girls, the ratio for the third was 1.51 favoring males.⁵⁹ In contrast, the sex ratios for white Americans in the United States in the same period were within the range of biologically normal and varied only slightly with parity and sex of previous children.⁶⁰ What is significant about these statistics is that these son-biased sex ratios are comparable to those documented for second and third children in India, China, and South Korea.⁶¹

II. GENDER IDENTIFICATION TECHNOLOGY

⁵⁴ April L. Cherry, *A Feminist Understanding of Sex-Selective Abortion: Solely A Matter of Choice?*, 10 WIS. WOMEN'S L.J. 161, 164 (1995).

⁵⁵ Douglas Almond & Lena Edlund, *Son-biased Sex Ratios in the 2000 United States Census*, 105 PROC. OF THE NAT'L ACAD. OF SCI. OF THE U.S. no.15, 5681, 5681 (2008) available at <http://www.pnas.org/content/105/15/5681.full.pdf+html>.

⁵⁶ *Id.* at 5681.

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ *Id.* These results held true irrespective of the mother's citizenship status, which was looked at as a possible marker of cultural assimilation. *Id.*

⁶⁰ *Id.*

⁶¹ *Id.*

Part II of this Article summarizes the different types of gender identification technology that are currently utilized. The once cutting-edge, and now commonplace, prenatal diagnostic tools of ultrasound, amniocentesis, and chorionic villus sampling all identify a fetus's gender in the first or second trimester of pregnancy. Noninvasive Prenatal Diagnosis, a new maternal blood test, also allows identification of gender but much earlier in one's pregnancy. The newer technologies of MicroSort and Preimplantation Genetic Diagnosis actually allow choosing the gender of one's child. This section provides a description of each of these gender identification and selection methods.

A. Ultrasound

Ultrasound is a noninvasive procedure with a reputation for safety.⁶² Results are available almost immediately and ultrasounds are considered safe for both the mother and baby.⁶³ An ultrasound can be used to detect fetal anomalies and assess fetal growth.⁶⁴ An ultrasound uses high-frequency sound waves to produce images of the baby in the uterus.⁶⁵ A small plastic device, a transducer, is used to send out sound waves and then measure the returning waves as they bounce off bone and tissue in the body.⁶⁶ Ultrasound cannot accurately determine a fetus's sex until four to five months into a pregnancy.⁶⁷ An ultrasound generally allows the health care provider to view the fetus's appendages and determine gender during the second trimester—between eighteen and twenty weeks of gestation.⁶⁸

⁶² 105 AM. JUR. 3D *Proof of Facts* 483 § 3 (2012).

⁶³ *Fetal Ultrasound*, MAYO CLINIC, <http://www.mayoclinic.com/health/fetal-ultrasound/MY00777> (last visited Dec. 12, 2012).

⁶⁴ 105 AM. JUR. 3D *Proof of Facts* 483 § 3 (2012).

⁶⁵ *Id.*

⁶⁶ *Id.*

⁶⁷ Osagie K. Obasogie, *Designing Your Own Baby*, BOSTON GLOBE (Aug. 8, 2005), http://www.boston.com/news/globe/editorial_opinion/oped/articles/2005/08/08/designing_your_own_baby/.

⁶⁸ *Id.*

B. Amniocentesis

Amniocentesis is one of the most common methods of prenatal screening.⁶⁹ The procedure is performed around sixteen weeks of gestation.⁷⁰ A long spinal needle is inserted through the abdomen and the wall of the uterus and into the amniotic sac surrounding the fetus.⁷¹ A sample of the amniotic fluid is withdrawn.⁷² The amniotic fluid contains cytological and biochemical components from the fetus.⁷³ The cells' chromosomes are examined, allowing for determination of the fetus's sex⁷⁴ and may be used for detecting fetal abnormalities,⁷⁵ such as Down Syndrome.⁷⁶ Amniocentesis is 99.5% accurate in diagnosing defects when used with ultrasound.⁷⁷ However, it is not used in all cases because of the potential risks—including trauma caused by insertion of the needle to the fetus,⁷⁸ trauma to the umbilical cord or maternal structures, infection,⁷⁹ and premature labor or abortion.⁸⁰ It is commonly used when the mother is over thirty-five years, which presents a greater risk of Down Syndrome and other problems, as well as when family history indicates a risk of chromosomal abnormality.⁸¹ Amniocentesis is

⁶⁹ 105 AM. JUR. 3D *Proof of Facts* 483 §3 (2012) (citing BOSS, *THE BIRTH LOTTERY* 18, 45 (1993); 2 Am. Law Med. Malp. §13:8).

⁷⁰ 105 AM. JUR. 3D *Proof of Facts* 483 §3 (2012).

⁷¹ *Id.*

⁷² *Id.*

⁷³ Turnbull & Mackenzie, *Second-Trimester Amniocentesis and Termination of Pregnancy*, 39 BRITISH MED. BULL. 315, 315 (1983).

⁷⁴ 105 AM. JUR. 3D *Proof of Facts* 483 §3 (2012) (citing *Davis v. Bd. of Supervisors of La. State Univ.*, 887 So. 2d 722 (La. Ct. App. 2004)).

⁷⁵ Turnbull & Mackenzie, *supra* note 70, at 315.

⁷⁶ R. Keith Johnson, Note, *Medical Malpractice and 'Wrongful Birth': A Critical Analysis of Wilson v. Kuenzi*, 57 UMKC L. REV. 337, 337 n.1 (1989) (citing *Wilson v. Kuenzi*, 751 S.W.2d 741, 742 (Mo. 1978)).

⁷⁷ 105 AM. JUR. 3D *Proof of Facts* 483 §3 (2012) (citing McEntire, Comment, *Compensating Post-Conception Prenatal Medical Malpractice While Respecting Life: A Recommendation to North Carolina Legislators*, 29 CAMPBELL L. REV. 761 (Spring 2007)).

⁷⁸ 105 AM. JUR. 3D *Proof of Facts* 483 §3 (2012) (citing *Rush v. Blanchard*, 310 S.C. 375 (1993)).

⁷⁹ 105 AM. JUR. 3D *Proof of Facts* 483 §3 (2012) (citing *Buzniak v. County of Westchester*, 549 N.Y.S.2d 130 (App. Div. 1989)).

⁸⁰ *Id.*

⁸¹ 105 AM. JUR. 3D *Proof of Facts* 483 §3 (2012) (citing *Davis* 887 So. 2d 722).

generally done to test for various chromosomal abnormalities but can also be used to determine the sex of the fetus.⁸²

C. Chorionic Villus Sampling

Chorionic villus sampling (CVS) can also be done to provide information on a baby's genetic makeup, including gender.⁸³ CVS requires the removal of a sampling of the chorionic villi (wispy projections) that make up most of the placenta and share the baby's genetic makeup.⁸⁴ CVS is usually only performed if there are abnormal results from other prenatal screening tests or if there are certain risk factors (chromosomal abnormality in previous pregnancy, family history of genetic disorder, or mother over the age of thirty-five) that may need earlier diagnosis. It can be done even earlier than amniocentesis and is generally performed around ten to twelve weeks gestation.⁸⁵ A needle is inserted either through the abdomen or vaginally, and a sample of cells is removed from around the embryo.⁸⁶ The cells can be tested for genetic diseases or chromosomal abnormalities.⁸⁷ Although the sample cannot be used to perform all of the same tests as amniocentesis, there are advantages to CVS over amniocentesis.⁸⁸ CVS can be performed before amniotic fluid forms, which can allow decisions about abortions to be made sooner.⁸⁹ However, the procedure does carry a higher risk of miscarriage.⁹⁰

⁸² 105 AM. JUR. 3D *Proof of Facts* 483 § 3 (2012).

⁸³ *Id.*

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ 105 AM. JUR. 3D *Proof of Facts* 483 § 3 (2012).

⁸⁹ *Id.*

⁹⁰ *Id.* (citing Gale Encyclopedia of Medicine, 2d Ed., GALE-MED 3451600666; 1 Attorneys Medical Advisor § 14:133).

D. Noninvasive Prenatal Diagnosis

Noninvasive Prenatal Diagnosis (NIPD), specifically through fetal cell isolation, is a new approach to prenatal diagnosis.⁹¹ During the early weeks of pregnancy, a tiny number of blood cells from the fetus leak through the placenta and into the mother's blood stream.⁹² These fetal cells can be separated from the mother's cells in a laboratory to allow for genetic analysis.⁹³ Unlike amniocentesis and CVS, this procedure is minimally invasive, requiring only a simple blood test from the mother, practically eliminating all risk factors associated with the more invasive tests.⁹⁴

The procedure offers the additional advantage that it can be conducted early on in pregnancy.⁹⁵ As early as eight weeks into the pregnancy, there are a sufficient number of cells in the mother's blood stream to perform the genetic analysis.⁹⁶ This early detection of genetic disorders gives parents additional time to make difficult decisions and preparations regarding the pregnancy.⁹⁷ Some companies already offer testing directly to consumers over the internet, promising accuracy as high as 95%–99% at as early as five to seven weeks gestation.⁹⁸ NIPD can identify a fetus's gender earlier than any other method of prenatal gender identification.

E. Preimplantation Genetic Diagnosis

⁹¹ Jeffrey R. Botkin, *Prenatal Diagnostics and The Selection of Children*, 30 FLA. ST. U. L. REV. 265, 280 (2003)

⁹² 105 AM. JUR. 3D *Proof of Facts* 483 § 3 (2012).

⁹³ *Id.*

⁹⁴ 105 AM. JUR. 3D *Proof of Facts* 483 § 3 (2012).

⁹⁵ *Id.*

⁹⁶ Botkin, *supra* note 92, at 280.

⁹⁷ *Id.*

⁹⁸ Stephanie A. Devaney et al., *Noninvasive Fetal Sex Determination Using Cell-Free Fetal DNA: A Systematic Review and Meta-analysis*, 306 J. AM. MED. ASS'N no.6, 627 (2011).

Preimplantation Genetic Diagnosis (“PGD”) is “a process designed to investigate the genetic characteristics of a pre-embryo prior to its transfer into the uterus.”⁹⁹ It is often used as a last resort after a mother has experienced several miscarriages or death of a fetus or baby due to a genetic disorder.¹⁰⁰ PGD can be used to determine whether a mother is at risk for having a baby with certain genetic defects, can be used as a preventative screening measure to find any genetic disorders with in vitro fertilization embryos, and also can be used for selecting the sex of implanted embryos.¹⁰¹ PGD is very reliable for gender selection (gender can be predicted with an 85%–95% accuracy¹⁰²), and 28% of Americans approve of its use for gender selection.¹⁰³ When PGD is used in the United States for gender selection purposes, it is often used where a couple has two children of the same sex and wants a third (or later) child of the opposite sex.¹⁰⁴ However, once the procedure is more readily available, families may start considering PGD gender selection for a first child.¹⁰⁵

The PGD procedure itself involves removing multiple ova from the mother, directly fertilizing them with sperm, and incubating them until they become pre-embryos.¹⁰⁶ When the pre-embryos are approximately three days old and contain eight cells, one of those cells is removed for biopsy to determine if the embryo will develop any genetic disorders.¹⁰⁷ Based on the biopsy results, patients may consider the genetic profiles of the pre-embryos and decide

⁹⁹ Louis Paonessa, Note and Comment, *Straightening Your Heir: On the Constitutionality of Regulating the Use of Preimplantation Technologies to Select Preembryos or Modify the Genetic Profile Thereof Based on Expected Sexual Orientation*, 33 RUTGERS COMPUTER & TECH L.J. 331, 335 (2007).

¹⁰⁰ *Id.*

¹⁰¹ Kimberly Kristin Downing, *A Feminist is a Person Who Answers “Yes” to the Question, “Are Women Human?”: An Argument Against the Use of Preimplantation Genetic Diagnosis for Gender Selection*, 8 DEPAUL J. HEALTH CARE L. 431, 433 (2005).

¹⁰² Jason Christopher Roberts, *Customizing Conception: A Survey of Preimplantation Genetic Diagnosis and the Resulting Social, Ethical, and Legal Dilemmas*, 2002 DUKE L. & TECH. REV. 12, 16 (2002).

¹⁰³ Downing, *supra* note 102, at 434 (citing Josh Ulick, *The Science of Sex Selection*, NEWSWEEK, Jan. 26, 2004, at 48).

¹⁰⁴ Roberts, *supra* note 103, at 26.

¹⁰⁵ Downing, *supra* note 102, at 445.

¹⁰⁶ Paonessa, *supra* note 100 at 336.

¹⁰⁷ Judith F. Daar, *Embryonic Genetics*, 2 ST. LOUIS U. J. HEALTH L. & POL’Y 81, 81-82 (2008).

which ones they would like to have implanted.¹⁰⁸ The procedure can cost \$18,000 per cycle and screens for over one hundred conditions and almost every known genetic chromosomal defect.¹⁰⁹

F. MicroSort

MicroSort is a newer technology specifically targeted for the purpose of having a baby of a certain gender.¹¹⁰ MicroSort is used before conception to separate sperm into those samples containing only the X chromosome (to produce a girl) or only the Y chromosome (to produce a boy).¹¹¹ Couples can then use a sample that contains spermatozoa to produce a healthy baby of the desired gender through a variety of artificial reproduction techniques such as intrauterine insemination, in vitro fertilization, intracytoplasmic sperm injection, or PGD.¹¹² The estimated results show that 91%–92% of couples that requested a sort for a baby girl were successful, and 76%–81% of those sorting for boys were successful.¹¹³ Of the five hundred pregnancies achieved using MicroSort technology, only four have been terminated.¹¹⁴ Most couples must make more

¹⁰⁸ Paonessa, *supra* note 100, at 337.

¹⁰⁹ Laura Damiano, Note, *When Parents Can Choose to Have the “Perfect” Child: Why Fertility Clinics Should Be Required to Report Preimplantation Genetic Diagnosis Data*, 49 FAM. CT. REV. 846, 847 (2011).

¹¹⁰ The technology behind MicroSort was originally created by the Department of Agriculture to sort livestock sperm. Claudia Kalb, *Brave New Babies*, NEWSWEEK, Jan. 26, 2004, at 45. In 1989, an animal physiologist was trying to improve the reproductive efficiency in livestock—working with pigs, rabbits and cattle—and found that the sperm could be separated by staining them with a fluorescent dye. Monica Sharma, Note, *Twenty-First Century Pink or Blue: How Sex Selection Technology Facilitates Gendercide and What We Can Do About It*, 46 FAM. CT. REV. 198, 200 fn. 24 (2008) (citing Genetics & IVF Institute, MicroSort Technology, at <http://www.MicroSort.net/technology.php>). The sperm carrying the X chromosomes absorb more dye and therefore glowed more brightly. *Id.* The same phenomenon as was observed in livestock can be observed in humans and became the basis for the MicroSort process. *Id.* MicroSort uses a flow cytometer to identify and sort sperm into those carrying the X (female) and the Y (male) chromosome. *Id.* The technology mixes sperm with a DNA-specific dye that helps to separate the X and Y chromosomes. Kalb, at 45. The sorted sample is then combined with varying other techniques—intrauterine insemination (IUI), in vitro fertilization (IVF), intracytoplasmic sperm injection (ICSI)—to achieve the desired pregnancy. *Id.* at 200.

¹¹¹ Sharma, *supra* note 111, at 200. MicroSort Laboratories are a branch of Genetics & IVF Institute, and are the only laboratories to have the technology to perform this sperm sorting procedure. *What Is MicroSort?*, MICROSORT, http://www.MicroSort.com/?page_id=319 (last visited Dec. 12, 2012). They collaborate with clinics and physicians to offer the technology around the globe, depending upon local regulations. *Id.*

¹¹² *What is MicroSort?*, *supra* note 108.

¹¹³ Kalb, *supra* note 111, at 45; *See also* Sharma, *supra* note 111, at 200.

¹¹⁴ Kalb, *supra* note 111, at 45.

than one attempt to get pregnant, with each attempt costing at least \$2500.¹¹⁵ It is estimated that boys are preferred 55%–65% of the time when PGD is used, whereas most couples who use MicroSort “want girls because the technique is 91% effective in selecting for X sperm.”¹¹⁶ The majority of couples who use MicroSort for gender selection rather than genetic disorder prevention have no fertility problems.¹¹⁷

MicroSort clinics offer the technology to couples for family balancing (balancing the sexual gender in their families)¹¹⁸ or to avoid passing on sex-linked genetic diseases.¹¹⁹ It is a less costly and less intrusive alternative to PGD.¹²⁰ According to their website, MicroSort “is available for couples who are looking to balance their families or prevent a genetic disease.”¹²¹ Based on these requirements, it would seem that a family cannot simply choose to have a baby and select its gender, but must be selecting the “underrepresented gender” and only for a subsequent child.

MicroSort was part of an ongoing Food and Drug Administration (“FDA”) clinical trial, begun in the early 1990s, to “investigat[e] the safety and efficacy of the preconception gender

¹¹⁵ Kalb, *supra* note 111, at 45.

¹¹⁶ Daar, *supra* note 108, at 268 n.71 (citing Claudia Kalb, *Brave New Babies*, NEWSWEEK, Jan. 26, 2004, at 45).

¹¹⁷ Kalb, *supra* note 107, at 45. Although the trial was not yet complete, MicroSort also reported that “2.4 percent of its babies have been born with major malformations, like Down syndrome, compared with 3 to 4 percent in the general population.” *Id.*

¹¹⁸ *Id.*

¹¹⁹ *Id.* (citing *Gender and Genetics*, WORLD HEALTH ORGANIZATION, <http://www.who.int/genomics/gender/en/index4.html> (last visited Dec. 12, 2012)). MicroSort laboratories in Guadalajara, Mexico, Mexico City, Mexico, and North Cyprus currently perform the sorting process. *MicroSort Locations*, MICROSORT, http://www.MicroSort.com/?page_id=311 (last visited Dec. 12, 2012). There are participating physicians listed specifically on the MicroSort website, and their offices can be found in Colombia, Guatemala, India, Mexico, Nigeria, Peru and Venezuela. *Collaborating Physicians in Other Countries*, MICROSORT, http://www.MicroSort.com/?page_id=865 (last visited Dec. 12, 2012). Usually, a patient would select from the participating physicians to perform procedures, but in some cases the sperm may be sorted at a MicroSort laboratory for use by a patient’s local physician. *MicroSort Locations, supra.*

¹²⁰ Meredith Leigh Birdsall, Note, *An Exploration of “The ‘Wild West’ of Reproductive Technology”: Ethical and Feminist Perspectives on Sex-Selection Practices in the United States*, 17 WM. & MARY J. WOMEN & L. 223, 229 (2010) (citing Ethics Comm. Of the Am. Soc’y of Reproductive Med., *Preconception Gender Selection for Nonmedical Reasons*, 75 FERTILITY & STERILITY 861, 861 (2001)).

¹²¹ *Requirements and Recommendations*, MICROSORT, http://www.MicroSort.com/?page_id=281 (last visited Dec. 12, 2012).

selection process.”¹²² Though the safety and efficacy framework the FDA uses in evaluating new drugs is the most demanding in the world, it does not take into account the ethical debate occurring regarding new biotechnologies.¹²³ As of 2004, the clinical trial of MicroSort technology was halfway to completion at the Genetics and IVF Institute (GIVF) in Fairfax, Virginia.¹²⁴ The clinic recruited hundreds of couples through radio, newspaper, and magazine ads—“Do you want to choose the gender of your next baby?” and “more than 400 babies out of 750 needed for the trial have been born.”¹²⁵ MicroSort’s clinical trial for family balancing began in 1995, and more than 13,000 couples had signed on by 2004.¹²⁶ This was almost ten times more than the number of couples that joined GIVF’s companion trial “aimed at avoiding genetic illnesses that strike boys.”¹²⁷ GIVF hoped that MicroSort would become the first sperm-sorting device to get FDA approval for safety and effectiveness, and hoped to make it available to as many couples as possible.¹²⁸

In April 2011, the FDA informed GIVF that it would no longer be allowed to enroll any more families in the FDA clinical trial for family-balancing purposes.¹²⁹ While it remains unclear as to why the FDA chose to shut down this portion of the clinical trials, GIVF released an informational flyer to its trial participants stating that GIVF no longer wished to pursue FDA approval of MicroSort, a decision it claimed had nothing to do with the safety or effectiveness of

¹²² Dov Fox, *Safety, Efficacy, and Authenticity: The Gap Between Ethics and Law in FDA Decisionmaking*, 2005 MICH. ST. L. REV. 1135, 1143 (2005) (citing Keith L. Blauer, *Human Sperm Sorting Method is Showing Success at Separating the Girls From the Boys*, 16 GENETICS & IVF INST. NEWSL. (Genetics & IVF Inst., Fairfax, Va.), 2002, at 2).

¹²³ *Id.* at 1139.

¹²⁴ Kalb, *supra* note 111, at 45.

¹²⁵ *Id.*

¹²⁶ *Id.*

¹²⁷ *Id.*

¹²⁸ *Id.*

¹²⁹ *What MicroSort Tells Clinical Trial Participants*, CENTER FOR HUMAN REPRODUCTION (July 6, 2012), <http://www.centerforhumanreprod.com/blog/what-microsort-tells-clinical-trial-participants/>.

MicroSort technology.¹³⁰ Because the FDA is no longer allowing GIVF to offer MicroSort for sex-selection or family-balancing purposes, the only way families in the United States can select the gender of their children is through a combination of IVF and PGD.¹³¹ PGD is an alternative to sperm-sorting techniques (the process used by MicroSort) and is seen as more controversial than some of the other assisted reproductive technologies available.¹³² It involves screening already fertilized embryos in order to determine the genetic make-up of that embryo, including genetic disorders and sex, and then implanting the favored embryos into the woman's body.¹³³ Choosing an embryo to implant can be a difficult decision for patients, as it often requires discarding embryos of the "wrong" sex, something that carries with it heavy moral and ethical concerns.¹³⁴

While its sex-selection procedures are no longer available in the United States, "[t]he MicroSort technique appears to be a commercial success in Asia, especially in China where parents must comply with the one child policy."¹³⁵ Some couples in India who are undergoing IVF cycles are preparing to use the process¹³⁶ to maximize their chances of having a boy.¹³⁷

III. GLOBAL RESPONSES AND LIMITATIONS TO GENDER IDENTIFICATION TECHNOLOGY

¹³⁰ *Id.*

¹³¹ *Id.*

¹³² Ashley Bumgarner, *A Right to Choose?: Sex Selection in the International Context*, 14 DUKE J. GENDER L. & POL'Y 1289, 1294 (2007). "There presently is little debate over the ethical validity of PGD [(preimplantation genetic diagnostics)] for sex selection when its aim is to prevent the transmission of sex-linked genetic disease." The Ethics Committee of the American Society of Reproductive Medicine, *Sex selection and preimplantation genetic diagnosis*, 72 FERTILITY AND STERILITY 595, 596 (October 1999), available at http://www.asrm.org/uploadedFiles/ASRM_Content/News_and_Publications/Ethics_Committee_Reports_and_Statements/Sex_Selection.pdf.

¹³³ *Id.*

¹³⁴ Jason Christopher Roberts, *Customizing Conception: A Survey of Preimplantation Genetic Diagnosis and the Resulting Social, Ethical, and Legal Dilemmas*, 2002 DUKE L. & TECH. REV. 12, 19-21 (2002).

¹³⁵ Gregory Katz & Stuart O. Schweitzer, *Implications of Genetic Testing for Health Policy*, 10 YALE J. HEALTH POL'Y, L. & ETHICS 90, 119 (2010).

¹³⁶ *Id.* at 119 (citing R. Ramachandran, *Inde: La Science Facilite La Sélection Sexiste*, LE COURRIER DE L'UNISCO, (Sept. 1999) http://www.unesco.org./courier/1999_09/fr/dossier/intro06.htm).

¹³⁷ Katz & Schweitzer, *supra* note 133, at 119.

As described in Part II, there are numerous methods to identify and even choose a baby's gender today. Although identification of gender is not a problem in itself, many ethical issues arise when such identification leads to gendercide. Many countries have decided to restrict certain types of sex selection. Many of the governments in countries affected by birth ratio imbalances have taken on a number of actions to address the problems stemming from boy preferences.¹³⁸ Many countries have attempted to create legal measures to restrict the use of relevant technologies.¹³⁹ Some laws prohibit determination and disclosure of the sex of the fetus unless the disclosure is required for medical reasons.¹⁴⁰ Other restrictions include the prohibition of abortion for sex-selection purposes and any advertising relating to prenatal sex determination.¹⁴¹

Thirty-six countries have national laws or policies on sex selection.¹⁴² In Austria, New Zealand, South Korea, Switzerland, and Vietnam, sex selection is prohibited for any reason.¹⁴³ The other countries that regulate sex selection prohibit sex-selective procedures for

¹³⁸ *UN Statement*, *supra* note 14 at 6-9.

¹³⁹ *Id.* at 6-9.

¹⁴⁰ *Id.*

¹⁴¹ *Id.*

¹⁴² John Parkinson, *House Rejects Ban on Sex-Selective Abortion*, Politics, ABC NEWS, (May 31, 2012), <http://abcnews.go.com/blogs/politics/2012/05/house-rejects-ban-on-sex-selection-abortions/>. ("Many nations with staunchly pro-choice/pro-abortion rights laws and protections nevertheless ban sex-selection abortions. Canada, the United Kingdom, France, Germany, Switzerland, Sweden, Norway, Finland and the Netherlands all have laws banning sex-selection abortions." *Id.*); Rebecca Taylor, *US Must Join Other Nations Banning Sex-Selective Abortion*, LIFENEWS.COM, (April 24, 2012), <http://www.lifeneews.com/2012/04/24/u-s-must-join-other-nations-banning-sex-selection-abortion/>. ("...the following countries have banned sex selection, either for non-medical reasons or altogether: Australia, Austria, Belgium, Bulgaria, Canada, China, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, India, Israel, Italy, Latvia, Lithuania, Netherlands, New Zealand, Norway, Portugal, Russia, San Marino, Singapore, South Korea, Spain, Switzerland, Turkey, United Kingdom, and Vietnam." *Id.*); Lusine Aghajanova & Cecilia T. Valdes, *Sex Selection for Nonhealth-Related Reasons*, 14 VIRTUAL MENTOR, AM. MED. ASS'N J. no.2, 105, (Feb. 2012), available at <http://virtualmentor.ama-assn.org/2012/02/pdf/ccas3-1202.pdf>. ("Five countries prohibit [sex-selection] for any reason, while 31 countries prohibit it for social or nonmedical reasons.").

¹⁴³ Lusine Aghajanova & Cecilia T. Valdes, *Sex Selection for Nonhealth-Related Reasons*, Virtual Mentor, AMERICAN MEDICAL ASSOCIATION (Feb. 2012), available at <http://virtualmentor.ama-assn.org/2012/02/ccas3-1202.html> ("Five countries prohibit [sex-selection] for any reason, while 31 countries prohibit it for social or nonmedical reasons."); Bratislav Stankovic, "*It's a Designer Baby!*": *Opinions on Regulation of Preimplantation Genetic Diagnosis*, 2005 UCLA J.L. & Tech. 3, 50 (2005) ("For instance, in Austria, Germany, Ireland, and

social or “non-medical” reasons but allow sex selection for medical reasons, such as to avoid the birth of children with sex-linked diseases.¹⁴⁴ This section discusses the legal restrictions regarding sex selection in several of these countries, including India, China, and the United States.

A. India

Due to the heavily male-skewed sex ratio, many feminists and activists in India lobbied for legislation to prevent sex-selective abortion.¹⁴⁵ The ban on prenatal diagnostic techniques for sex selection first came about in local areas through the efforts of health and human rights activists.¹⁴⁶ The Indian Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act (“PNDT”) came about in 1994 partly as a result of similar efforts at a national level,¹⁴⁷ and from a parliament subcommittee taking recommendations from women’s and civil rights groups.¹⁴⁸ The PNDT Act in India bans sex selection for all purposes.¹⁴⁹ This law has not been

Switzerland, PGD is completely prohibited.”); *Sex Selection & Abortion: New Zealand*, LIBRARY OF CONGRESS, available at <http://www.loc.gov/law/help/sex-selection/newzealand.php> (“Sex-selection in reproductive technology is generally prohibited [in New Zealand.]”); Naryung Kim, *Breaking Free From Patriarchy: A Comparative Study of Sex Selection Abortions in Korea and the United States*, 17 UCLA Pac. Basin L.J. 301, 301-02 (1999/2000) (“... in the country of South Korea, where abortion is not a constitutional right, but rather a crime punishable by up to ten years in prison.” *Id.* at 107.); Steven Ertelt, *Vietnam Government Issues New Fines Over Sex-Selection Abortions*, LIFE NEWS.COM, (Oct. 12, 2012), <http://www.lifenews.com/2006/10/12/nat-2652/>. (“The Vietnamese government has issued new fines hoping to prevent sex-selection abortions from continuing to prey on baby girls in the Asian nation.” *Id.*).

¹⁴⁴ Aghajanova & Valdes, *supra* note 144, at 107. (“Five countries prohibit [sex-selection] for any reason, while 31 countries prohibit it for social or nonmedical reasons.” *Id.*) (“...Sex selection is used to avoid so-called sex-linked diseases, which male children inherit from their mothers, such as hemophilia A and B, Duchenne muscular dystrophy, Lesch-Nyhan syndrome and others.” *Id.* at 106.).

¹⁴⁵ Chamie, *supra* note 4.

¹⁴⁶ *Addressing Prenatal Sex Selection*, UNITED NATIONS POPULATION FUND- INDIA available at <http://india.unfpa.org/drive/Pre-NatalSexSelection.pdf>.

¹⁴⁷ *Id.*

¹⁴⁸ Lemoine & Tanagho *supra* note 22, at 226 n.173 (citing INDIRA JAISING, THE LAWYER’S COLLECTIVE: WOMEN’S RIGHTS INITIATIVE, PRE-CONCEPTION, & PRE-NATAL DIAGNOSTICS TECHNIQUES ACT: A USERS GUIDE TO THE LAW 1-2 (ed., 2004)).

¹⁴⁹ *Sex Selection & Abortion: India*, LIBRARY OF CONGRESS, <http://www.loc.gov/law/help/sex-selection/india.php> (last updated Aug. 2, 2012). This prohibition seems to contradict the Medical Termination of Pregnancy Act (1971), which allows abortion of a fetus at risk of being born with serious physical or mental disabilities. *Id.*

effective. Often, a physician may merely just “wink or wince” to reveal the gender of the fetus if the physician is aware that the parents really would prefer a boy.¹⁵⁰ Although implemented in 1996, the Act was routinely ignored and sex selection continued as a regular practice.¹⁵¹ In response to advocacy groups and a Public Interest Litigation (“PIL”) petition, the Supreme Court of India issued opinions in 2001 and 2003 denouncing the practice of sex-selective abortion and calling for more vigorous implementation of the Act.¹⁵² In response to these opinions, the PNDT Act was amended, changing the name to the Pre-conception and Pre-natal Diagnostic Techniques (Prohibition of Sex Selection) and imposing limitations on the use of prenatal diagnostic procedures to situations where they are medically necessary.¹⁵³ This means that women in India are not legally able to find out the gender of their child prior to birth. Although ultrasounds are used for medical purposes, they are hidden from view of the pregnant woman and her family. The intention behind the law was to prevent sex-selective abortion.

Despite the amendments to the Act, there remain challenges with enforcement due to complicity from both the medical community and government officials.¹⁵⁴ Even when arrests are made, the backlog of cases in the judiciary often means that cases stagnate for years.¹⁵⁵ Further, under the Act, a woman who undergoes a sex-selective abortion is penalized. Thus, a woman may be penalized by her family if she does not have the abortion (due to the cultural preference for sons) but will be penalized by the law if she does.¹⁵⁶

¹⁵⁰ *Id.*

¹⁵¹ *Id.*

¹⁵² Mallika Kaur Sarkaria, *Lessons From Punjab’s “Missing Girls”*: Toward A Global Feminist Perspective on “Choice” in Abortion, 97 CAL. L. REV. 905, 920–21 (2009).

¹⁵³ *Id.* at 921-22.

¹⁵⁴ *Id.* at 922.

¹⁵⁵ *Id.* at 923 (citing *Foundation Stone for Judicial Complex Laid*, TRIBUNE (Online Ed.) (Chandigarh, India) (Mar. 24, 2007), <http://www.tribuneindia.com/2007/20070325/punjab1.htm>).

¹⁵⁶ *Sarkaria, supra* note 153, at 923–24.

B. China

Similar to India's law, China's 1994 Maternal and Infant Health Care Law prohibits the use of medical technologies such as ultrasound and amniocentesis to identify the gender of the fetus.¹⁵⁷ The law states that "sex identification of the fetus by technical means shall be strictly forbidden, except that it is positively necessitated on medical grounds."¹⁵⁸ This law was later supplemented by the Regulation On Prohibiting Fetal Sex Identification and Selective Termination of Pregnancy for Non-Medical Reasons in 1998¹⁵⁹ and the Population and Family Planning Law in 2002.¹⁶⁰ The regulation was passed with "the aim to ensure the normal gender structure of population at birth as well as promote the sustainable development of population, economy and society."¹⁶¹ It bans determination of fetal sex and "selective termination of pregnancy, except for medical reasons,"¹⁶² such as if someone who has been diagnosed with a sex-related hereditary disease.¹⁶³ China's Article 35 of the Population and Family Planning Law also bans sex-selective pregnancy termination for non-medical purposes.¹⁶⁴ The law states that "[u]se of ultrasonography or other techniques to identify fetal sex for non-medical purposes is strictly prohibited. Sex-selective pregnancy termination for non-medical purposes is strictly

¹⁵⁷ Timothy R. Loveland, *Sex-Selective Abortion Law in China and Corresponding Conception in the United States*, 21 ANNALS HEALTH L. ADVANCE DIRECTIVE 173, 182 (Spring 2012) (citing Law of the People's Republic of China on Maternal and Infant Health Care, Art. 32, Oct. 27, 1994).

¹⁵⁸ Law of the People's Republic of China on Maternal and Infant Health Care (promulgated by Order No. 33 of the President of the People's Republic of China, Oct. 27, 1994, effective June 1, 1995) Art. 32, *available at* http://www.china.org.cn/china/2010-03/04/content_19522945.htm.

¹⁵⁹ Loveland, *supra* note 158, at 182-83 (citing Law of the People's Republic of China on the Regulation On Prohibiting Fetal Sex Identification and Selective Termination of Pregnancy for Non-Medical Reasons).

¹⁶⁰ Loveland, *supra* note 151, at 183 (citing Law of the People's Republic of China on Population and Family Planning, Art. 35, Dec. 29, 2001).

¹⁶¹ Regulation On Prohibiting Fetal Sex Identification and Selective Termination of Pregnancy for Non-Medical Reasons (promulgated by the Standing Committee of the Shandong Provincial People's Congress, Nov. 21, 1998) Art. 1. (P.R.C.), *available at* http://www.afppd-populationpolicies.org/Legislation/China/Regulation-On-Prohibiting-Fetal_Sex_Identification_and-Selective_Termination_of%20Pregnancy_for_Non-medical_Reasons.html.

¹⁶² *Id.*

¹⁶³ *Id.*

¹⁶⁴ Loveland, *supra* note 158, at 183 (citing Law of the People's Republic of China on Population and Family Planning, Art. 35, Dec. 29, 2001).

prohibited.”¹⁶⁵ The punishment for violation includes administrative sanctions, fines, and possible loss of a provider’s medical license.¹⁶⁶ Criminal liability only attaches if there is bribery involved.¹⁶⁷

These attempts to regulate sex-selective abortion in China have been largely ineffective.¹⁶⁸ These regulations are laxly enforced.¹⁶⁹ Amniocentesis and ultrasound technology is widely available in China.¹⁷⁰ And there is no legal barrier to abortion. In fact, the abortion may be potentially subsidized by the Chinese government.¹⁷¹ Additionally, both the women seeking abortion and those providing them have similar motivation to keep the procedure a secret.¹⁷²

Another stumbling block has been China’s culture.¹⁷³ Family planning guidelines are generally considered to be “policy” and not “law,” and thus compliance is deemed voluntary.¹⁷⁴ Although the laws enacted regarding sex selection ban certain practices, the failure to criminalize the practices has rendered them less effective.¹⁷⁵

¹⁶⁵ Loveland, *supra* note 158, at 183 (citing Law of the People's Republic of China on Population and Family Planning, Art. 35, Dec. 29, 2001).

¹⁶⁶ Regulation On Prohibiting Fetal Sex Identification and Selective Termination of Pregnancy for Non-Medical Reasons (promulgated by the Standing Committee of the Shandong Provincial People’s Congress, Nov. 21, 1998) Art. 9. (P.R.C.), *available at* http://www.afppd-populationpolicies.org/Legislation/China/Regulation-On-Prohibiting-Fetal_Sex_Identification_and-Selective_Termination_of%20Pregnancy_for_Non-medical_Reasons.html.

¹⁶⁷ Regulation On Prohibiting Fetal Sex Identification and Selective Termination of Pregnancy for Non-Medical Reasons (promulgated by the Standing Committee of the Shandong Provincial People’s Congress, Nov. 21, 1998) Art. 10. (P.R.C.), *available at* http://www.afppd-populationpolicies.org/Legislation/China/Regulation-On-Prohibiting-Fetal_Sex_Identification_and-Selective_Termination_of%20Pregnancy_for_Non-medical_Reasons.html.

¹⁶⁸ Loveland, *supra* note 158, at 183 (citing Avraham Y. Ebenstein & Ethan J. Sharygin, *The Consequences of the “Missing Girls” of China*, 23 WORLD BANK ECON. REV. 399, 418-21 (2009)).

¹⁶⁹ Loveland, *supra* Note 158 at 183 (citing Valerie M. Hudson, *The Missing Girls of China and India: What is Being Done?*, 41 CUMB. L. REV. 67, 69–70 (2011)).

¹⁷⁰ *Id.*

¹⁷¹ *Id.*

¹⁷² Elise Micheli, *Sex Selection in The United States: A Move Toward Legislation*, 18 NEW ENG. J. INT’L & COMP. L. 525, 531 (2012) (citing Celia W. Dugger, *The World; Modern Asia’s Anomaly: The Girls Who Don’t Get Born*, N.Y. TIMES, May 6, 2001, *available at* <http://www.nytimes.com/2001/05/06/weekinreview/the-world-modern-asia-s-anomaly-the-girls-who-don-t-get-born.html>).

¹⁷³ Loveland, *supra* note 158, at 184.

¹⁷⁴ *Id.* at 184 (citing Susan M. Rigdon, *Abortion Law and Practice in China: An Overview with Comparisons to the United States*, 42 SOC. SCI. MED. 543, 545 (1996)).

¹⁷⁵ Loveland, *supra* note 158, at 184.

C. European Countries

The United Kingdom prohibits sex selection unless there are medical reasons, such as legitimate concerns over passing sex-linked genetic diseases.¹⁷⁶ The law was originally passed in 1993.¹⁷⁷ In 2007, it was amended to prevent all sperm-sorting techniques, such as MicroSort.¹⁷⁸ Similarly, Germany prohibits sex selection. Germany's Embryo Protection Act of 1990 makes sex selection for non-medical purposes punishable by up to one year's imprisonment.¹⁷⁹

In contrast to some other European countries, Italy allows first trimester abortions for women over the age of eighteen as long as the abortion falls within one of the enumerated categories, including physical or mental danger to the mother and individual circumstances.¹⁸⁰ Other legally justified reasons for an abortion include economic or social circumstances, the "circumstances in which conception occurred," and the likelihood that there would be birth defects.¹⁸¹ Individual circumstances and social circumstances are open enough to allow sex-selective abortions. Some theorize that Italy may serve as a "destination" for abortions in Europe.¹⁸² Abortion is provided free of charge¹⁸³ in public hospitals or in private structures authorized by the regional health authorities.¹⁸⁴

¹⁷⁶ Amanda Mitchison, *Sex Selection: Getting the Baby You Want*, THE GUARDIAN (Apr. 2, 2010, 7:13 PM), <http://www.guardian.co.uk/lifeandstyle/2010/apr/03/sex-selection-babies>.

¹⁷⁷ *Id.*

¹⁷⁸ *Id.*

¹⁷⁹ Birdsall, *supra* note 121, at 225 (citing Gesetz zum Schutz von Embryonen [ESchG][Embryo Protection Act], Dec. 13, 1990, BCBI. I at 2746 (Ger.)).

¹⁸⁰ Erica DiMarco, *The Tides of Vatican Influence in Italian Reproductive Matters: From Abortion to Assisted Reproduction*, 10 RUTGERS J. L. & RELIGION 10 (Spring 2009) (citing Law No. 194, Gazz. Uff. No. 140, May 22, 1978 available at <http://annualreview.law.harvard.edu/population/abortion/ITALY.abo.htm>). In 1978, the Italian Parliament codified Law No. 194 on the Social Protection of Motherhood and the Voluntary Termination of Pregnancy. *Id.*

¹⁸¹ *Id.* at n.31 (citing Law No. 194, Gazz. Uff. No. 140, May 22, 1978 available at <http://annualreview.law.harvard.edu/population/abortion/ITALY.abo.htm>).

¹⁸² *Gender Selection in Europe*, GENDER-BABY, <http://www.gender-baby.com/lifestyle/legal-issues/international-laws-on-gender-selection/gender-selection-in-europe/> (last visited Dec. 14, 2012).

Italy does have strict laws restricting many aspects of assisted reproduction, including in vitro fertilization and embryonic stem cell research.¹⁸⁵ The Medically Assisted Reproduction Law (MARL) allows only infertile, stable, heterosexual couples to become eligible for assisted reproduction techniques and does not allow donor eggs or sperm to be used.¹⁸⁶ In addition to limiting the number of embryos that can be created¹⁸⁷ and prohibiting freezing of embryos, the law also prohibits genetic analysis on embryos, including PGD, before implantation.¹⁸⁸

D. Australia

Sex selection is prohibited in Australia.¹⁸⁹ The National Health and Medical Research Council (“NHMRC”) outlawed sex selection on moral and ethical grounds in 2004.¹⁹⁰ The Guidelines that were established by the Council state:

Sex selection is an ethically controversial issue. The Australian Health Ethics Committee believes that admission to life should not be conditional upon a child being a particular sex. Therefore, pending further community discussion, sex selection (by whatever means) must not be undertaken except to reduce the risk of transmission of a serious genetic condition.¹⁹¹

¹⁸³ DiMarco, *supra* note 181 (citing Clyde Haberman, *Abortion Law in Italy Draws Growing Fire*, N.Y. TIMES, Feb. 19, 1989, at § 1).

¹⁸⁴ Patrizia Farina & Livia Ortensi, *Induced abortion, contraception and unmet need for family planning among African immigrants in Italy*, UNIVERSITÀ DEGLI STUDI DI MILANO, available at <http://uaps2011.princeton.edu/papers/110726>. Abortion is permitted in the second trimester of the pregnancy only where there is a risk for the woman’s life or in cases where the fetus carries genetic or other serious malformations. *Id.* There are also provisions in for women under the age of 18 to obtain an abortion. *Id.*

¹⁸⁵ DiMarco, *supra* note 181.

¹⁸⁶ DiMarco, *supra* note 181 (citing *Italian Lawmakers Enact Rules That Limit Reproductive Rights*, N.Y. TIMES, Dec. 12, 2003, at A16).

¹⁸⁷ *Id.* (citing Alessandra Rizzo, *Official: Italy abortion law could change*, ASSOCIATED PRESS, June 14, 2005).

¹⁸⁸ DiMarco, *supra* note 181 (citing Robin Marantz Henig, Essay, *On High-Tech Reproduction, Italy Will Practice Abstinence*, N.Y. TIMES, Mar. 2, 2004, at F5). Some say that MARL is “unjust given that it is legal under Italian law to screen a fetus during pregnancy and abort it before it is 24 weeks old. *Id.* There are also concerns that the MARL conflicts with the abortion law by giving embryos rights that are not afforded to fetuses. DiMarco, *supra* note 174 (citing Dominic Standish, *Italy: Fertile Ground for Reform*, CONSCIENCE, May 22, 2005).

¹⁸⁹ *Sex Selection & Abortion: Australia*, LIBRARY OF CONGRESS, <http://www.loc.gov/law/help/sex-selection/australia.php#f2> (last updated Aug. 2, 2012).

¹⁹⁰ *Id.*

¹⁹¹ *Id.* (citing Australian Government, National Health and Medical Research Council, *Ethical guidelines on the use of assisted reproductive technology [ART] in clinical practice and research*, 2007, ¶ 11.1, http://www.nhmrc.gov.au/publications/synopses/_files/e78.pdf).

Although these guidelines are not legally binding, these guidelines must be followed by any facility or physician's office seeking accreditation.¹⁹² Three states in Australia—Victoria, Western Australia, and South Australia—have all legislatively banned sex selection unless necessary to prevent “a genetic abnormality or disease,”¹⁹³ “a gender based disorder,”¹⁹⁴ or “the transmission of genetic defect.”¹⁹⁵ For example, under Victoria's Assisted Reproductive Treatment Act of 2008, an individual may face up to two years imprisonment for utilizing sex selection for non-medical reasons.¹⁹⁶

E. Canada

In Canada, sex selection is prohibited when using assisted reproductive technology unless used to prevent diseases.¹⁹⁷ According to Canada's Assisted Human Reproduction Act, no person shall:

[f]or the purpose of creating a human being, perform any procedure or provide, prescribe or administer any thing that would ensure or increase the probability that an embryo will be of a particular sex, or that would identify the sex of an *in vitro* embryo, except to prevent, diagnose or treat a sex-linked disorder or disease.¹⁹⁸

F. United States

¹⁹² *Sex Selection & Abortion: Australia*, *supra* note 190.

¹⁹³ *Id.* (citing Assisted Reproductive Treatment Act 2008, No. 76 of 2008, § 28 (Victoria)).

¹⁹⁴ *Sex Selection & Abortion: Australia*, *supra* note 190 (citing Reproductive Technology Council, *Approval for Diagnostic Testing of Embryos* (2004) (WA)).

¹⁹⁵ *Sex Selection & Abortion: Australia*, *supra* note 190 (citing Reproductive Technology (Clinical Practices) Act 1988, § 13, (SA)).

¹⁹⁶ Birdsall, *supra* note 118 (citing Assisted Reproductive Treatment Act 2008, c. 28 (Vic.)(Austl.)).

¹⁹⁷ *Sex Selection & Abortion: Canada*, LIBRARY OF CONGRESS, <http://www.loc.gov/law/help/sex-selection/canada.php> (last updated Aug. 2, 2012).

¹⁹⁸ *Id.* (citing Assisted Human Reproduction Act, 2004 S.C. ch. 2, s. 5(e), *available at* http://laws.justice.gc.ca/en/showdoc/cs/A-13.4/bo-ga:s_5/20090616/en#anchorbo-ga:s_5).

In the United States, four states have passed legislation regarding sex selection. Arizona, Pennsylvania, Illinois, and Oklahoma all have statutes in place with language specifically prohibiting abortion based on sex selection.

Arizona's statute is the most specific and comprehensive in addressing the issue, requiring that an affidavit be submitted prior to the performance of an abortion, stating that "the person making the affidavit is not aborting the child because of the child's sex or race and has no knowledge that the child to be aborted is being aborted because of the child's sex or race."¹⁹⁹ Arizona makes it a crime for a physician to perform an abortion with the knowledge that the abortion is sought because of the fetus's sex or race.²⁰⁰

Pennsylvania's statute allows a physician to use his or her medical judgment to determine the reasons for the abortion.²⁰¹ An abortion may be performed only after the physician certifies that "in his best clinical judgment, the abortion is necessary" or after receiving a written statement from a referring physician certifying the same.²⁰² The law explicitly states that "[n]o abortion which is sought solely because of the sex of the unborn child shall be deemed a necessary abortion."²⁰³ Violation of the statute is considered both criminal as well as a possible cause for suspension or loss of medical license.²⁰⁴

The relevant Illinois statute states that "[n]o person shall intentionally perform an abortion with knowledge that the pregnant woman is seeking the abortion solely on account of the sex of the fetus."²⁰⁵ The statute goes on to note that none of the language "shall be construed to proscribe the performance of an abortion on account of the sex of the fetus because of a

¹⁹⁹ ARIZ. REV. STAT. ANN. § 36-2157 (2012).

²⁰⁰ ARIZ. REV. STAT. ANN. § 13-3603.02 (2012).

²⁰¹ 18 PA. CONS. STAT. § 3204(a) (2012).

²⁰² *Id.*

²⁰³ 18 PA. CONS. STAT. § 3204(c) (2012).

²⁰⁴ 18 PA. CONS. STAT. § 3204(d) (2012).

²⁰⁵ 720 ILL. COMP. STAT. ANN. 510/6 (West 2012).

genetic disorder linked to that sex.”²⁰⁶ Violation of the statute constitutes a criminal offense.²⁰⁷

The Oklahoma statute maintains almost identical language to the Illinois statute²⁰⁸ but allows for damages against the violating party.²⁰⁹

1. Proposed State Legislation

In addition, seven states have proposed bills regarding the prohibition of sex-selective abortion. Florida, Massachusetts, Missouri, New Jersey, New York, Ohio, and Rhode Island all have some version of proposed legislation concerning requirements of the physician, application to abortions because of genetic disorders, and the penalties imposed (criminal or civil).

In Florida, the Susan B. Anthony and Frederick Douglass Prenatal Nondiscrimination and Equal Opportunity for Life Act proposes amending the Florida abortion statute to read that

[a] person may not knowingly perform a termination of pregnancy before that person completes an affidavit stating that he or she is not performing the termination of pregnancy because of the child’s sex or race and has no knowledge that the pregnancy is being terminated because of the child’s sex or race.²¹⁰

The proposed legislation provides for criminal penalties, enjoining of the physician from performing future abortions, and the payment of civil fines.²¹¹

In Missouri, the Abortion Ban for Sex Selection and Genetic Abnormalities Act of 2012 proposes language that “[n]o person shall intentionally perform or attempt to perform an abortion with the knowledge that the pregnant woman is seeking the abortion solely on account of the sex of the unborn child.”²¹² Although this bill does not require the signed affidavit as the proposed Florida legislation does, the Missouri bill would impose similar criminal and civil penalties for

²⁰⁶ 720 ILL. COMP. STAT. ANN. 510/6 (West 2012).

²⁰⁷ *Id.*

²⁰⁸ OKLA. STAT. ANN. tit. 63, § 1-731.2(B) (West 2012).

²⁰⁹ OKLA. STAT. ANN. tit. 63, § 1-731.2(C) (West 2012).

²¹⁰ S. 1702, 114th Leg., Reg. Sess. (Fla. 2012).

²¹¹ *Id.*

²¹² H.R. 1933, 96th Gen. Assemb., 2d Reg. Sess. (Mo. 2012).

performing sex-selective abortions.²¹³ The bill is also distinguishable from other similar proposals in that it would additionally ban abortions based on diagnosed genetic disorders.²¹⁴

The proposed New Jersey Assembly Bill No. 2157 would impose similar penalties, criminal and civil, to the Florida and Missouri bills, for anyone “who knowingly... performs a sex-selection or race-selection abortion.”²¹⁵ The New York and Rhode Island bills are slightly less expansive but mirror very closely the current Illinois and Oklahoma language prohibiting sex-selective abortion but not abortion because of genetic disorders.²¹⁶ The New York proposed legislation would only specifically create a civil cause of action for punitive damages against anyone performing an abortion in violation of the statute regardless of any parental consent given.²¹⁷ Rhode Island follows the same general formula in its proposal, both in prohibiting sex-selective abortion as well as the penalties. The proposed Massachusetts legislation is also not as expansive as other states, simply inserting language prohibiting sex selection without stating any specific additional penalties.²¹⁸ Ohio similarly has legislation proposed under which “[n]o person shall purposely... [p]erform or induce or attempt to perform or induce an abortion...because of the sex or gender of the unborn child,”²¹⁹ and authorizes a civil action against anyone performing a sex-selective abortion.²²⁰

²¹³ *Id.*

²¹⁴ *Id.*

²¹⁵ Gen. Assemb. 2157, 215th Leg., 1st Ann. Sess., (N.J. 2012).

²¹⁶ Assemb. 7610, 234th Leg. (N.Y. 2011). The language reads that:

[n]o person shall knowingly or recklessly perform or attempt to perform an abortion with knowledge that the pregnant female is seeking the abortion solely on account of the sex of the unborn child. Nothing in this section shall be construed to proscribe the performance of an abortion because the unborn child has a genetic disorder that is sex-linked. *Id.*

²¹⁷ *Id.*

²¹⁸ H.R. 484, 187th Gen. Ct. (Mass. 2011).

²¹⁹ H.R. 570, 129th Gen. Assemb., 2011-2012 Sess. (Ohio 2012).

²²⁰ *Id.*

Though these proposals vary, each directly addresses and prohibits the specific practice of sex-selective abortion, focuses on the abortion provider, and limits the liability and penalties on the woman herself for having the abortion.

2. Proposed Federal Legislation

A significant piece of legislation, the Prenatal Nondiscrimination Act (“PRENDA”), a federal bill prohibiting sex-selective abortion, was considered in the United States House of Representatives in December 2011.²²¹ PRENDA proposed to fine or imprison anyone who performed an abortion knowing that “such an abortion is sought based on the sex, gender, color or race of the child.”²²² PRENDA also created civil remedies against the provider, such as damages for injuries, punitive damages, and injunctive relief to prevent the abortion provider from performing any further abortions.²²³ On May 31, 2012, PRENDA failed to receive the two-thirds vote required to pass, with a final vote of 246–168.²²⁴ Although PRENDA did not pass, it was important as the first comprehensive proposed federal sex-selection legislation in the United States.²²⁵ What is interesting is that much of the language in the Findings and Constitutional Authority section of PRENDA referenced sex selection as an international problem.²²⁶ In fact,

²²¹ The Act was given the Short Title (to be cited as) “Susan B. Anthony and Frederick Douglass Prenatal Nondiscrimination Act of 2011.” H.R. 3541, 112th Cong. (2011) Sec.1.

²²² H.R. 3541, 112th Cong. (2011). § 250(a)(1), (4).

²²³ *Id.* § 250(b)(3)(A)-(B). Such actions could be brought by the woman who had the abortion and her relatives. *Id.* § 250(b)(1)-(2).

²²⁴ *H.R. 3541: Prenatal Nondiscrimination Act (PRENDA) of 2012*, GOVTRACK.US, <http://www.govtrack.us/congress/votes/112-2012/h299> (last visited Dec. 13, 2012). This vote was taken under a procedure called “suspension of the rules” which is typically used to pass non-controversial bills. Votes under suspension require a 2/3rds majority. A failed vote under suspension can be taken again.

²²⁵ PRENDA claimed that “the American public supports a prohibition of sex-selection abortion.” H.R. 3541, Sec. 2(a)(1)(G). It also noted that “the American medical community opposes sex-selection abortion.” *Id.* H.R. 3541 at Sec. 2(a)(1)(K).

²²⁶ *See* H.R. 3541 Sec. 2. For example, PRENDA noted that “son preference is reinforced by the low value associated, by some segments of the world community, with female offspring.” *Id.* at Sec. 2(a)(1)(E). *Id.* PRENDA referenced that countries with longstanding experience with sex-selection abortion such as the Republic of India, the United Kingdom, and the People’s Republic of China have enacted restrictions on sex-selection.” *Id.* at Sec. H.R.

almost half of the findings referenced the worldwide community, other countries' policies, or the cultural practices of foreign countries.²²⁷ The bill noted the statistic that “more than 100 million women [a]re ‘demographically missing’ from the world.”²²⁸ PRENDA also referenced the United Nations Commission on the Status of Women and noted that the Commission “has urged governments of all nations ‘to take necessary measure to prevent prenatal sex selection.’”²²⁹ The bill also asserted that without this legislation, the United States was becoming a sort of “abortion tourism” locale.²³⁰ According to the sponsors of PRENDA, “citizens from other countries come to the United States for sex-selection procedures that would be criminal in their country of origin.”²³¹ The sponsors of PRENDA seemed concerned that, similar to the reproductive tourism trend,²³² the “sex-selection industry was a growing trend in the United States.”²³³ PRENDA stated that there is “evidence of sex selection, most likely at the prenatal stage” in the United States.²³⁴

3541 Sec. 2(a)(1)(JH). PRENDA noted that “while sex-selection abortions are more common outside the United States, the evidence reveals that female feticide is also occurring in the United States.” *Id.* at Sec. 2(a)(1)(F). PRENDA notes that “the United States Congress has expressed repeatedly . . . strong condemnation of policies promoting sex-selection abortion in the ‘Communist Government of China.’” *Id.* at Sec. 2(a)(1)(H).

²²⁷ See H.R. 3541 Sec.2.

²²⁸ H.R. 3541 Sec. 2(a)(1)(I). PRENDA also notes that “experts worldwide document that a significant sex-ratio imbalance in which males numerically predominate can be a cause of increased violence and militancy within a society.” *Id.* at Sec. 2(a)(1)(L).

²²⁹ H.R. 3541 Sec. 2(a)(1)(H).

²³⁰ H.R. 3541 Sec. 2(a)(1)(J). PRENDA stated that “[b]ecause the United States permits abortion on the basis of sex, the United States may effectively function as a ‘safe haven’ for those who seek to have American physicians do what would otherwise be criminal in their home countries . . .” *Id.*

²³¹ H.R. 3541 Sec. 2(a)(1)(J). PRENDA also suggested “some Americans are exercising sex-selection abortion practices within the United States consistent with discriminatory practices common to their country of origin, or the country to which they trace their ancestry.” H.R. 3541 Sec. 2(a)(1)(F). This appears to reference the study regarding Chinese American, Indian American and Korean American populations discussed earlier.

²³² I have written previously about reproductive tourism in the surrogacy context. See Seema Mohapatra, *Adoption Scandals and Stateless Babies: A Bioethical Analysis of Commercial Surrogacy*, 30 BERKELEY J. INT’L L. 412 (2012). See also Seema Mohapatra, *A Race To The Bottom?: The Need for International Regulation of the Rapidly Growing Global Surrogacy Market?*, in *Gestational Surrogacy and The Womb For Rent Industry In India* (Eds. S. DasGupta & S. Dasgupta) (forthcoming 2013); Seema Mohapatra, *Achieving Reproductive Justice In The International Surrogacy Market*, 21 ANNALS OF HEALTH LAW 191 (2012).

²³³ H.R. 3541 Sec. 2(a)(1)(C).

²³⁴ *Id.* at Sec. 2(a)(1)(F).

Although the sponsors of PRENDA ostensibly seemed concerned that the majority of sex-selection abortions performed in the United States and worldwide are overwhelmingly female,²³⁵ the bill was proposed and endorsed only by pro-life politicians and groups. Arizona Representative Trent Franks, who has vowed to advocate the “sanctity of life” during his term,²³⁶ sponsored PRENDA in the House.²³⁷ Franks has “made it one of [his] priorities ... to fight for the end of abortion on demand.”²³⁸ Americans United for Life (AUL) has also been a vocal supporter of PRENDA, urging the public and Congress to support the legislation and “stop a real war on women—sex selection abortions.”²³⁹

The PRENDA legislation itself references opinions made by the American College of Obstetricians and Gynecologists (“ACOG”) as well as the American Society for Reproductive Medicine (“ASRM”) in support for its finding that the American medical community opposes sex-selection abortion.²⁴⁰ Cited in PRENDA is an ACOG Ethics Committee Opinion stating that “sex-selection is inappropriate for family planning purposes because sex-selection ‘ultimately supports sexist practices.’”²⁴¹ In that same Committee Opinion, the ACOG states “[t]he committee accepts, as ethically permissible, the practice of sex selection to prevent sex-linked genetic disorders.”²⁴² The ACOG recognizes the fact that “it might be difficult for health care

²³⁵ H.R. 3541 Sec. 2(a)(1)(E).

²³⁶ See *Sanctity of Life*, U.S. CONGRESSMAN TRENT FRANKS, <http://franks.house.gov/issue/sanctity-life> (last visited Dec. 13, 2012). <http://www.franks.house.gov/pages/sanctity-of-life>.

²³⁷ H.R. 3541: *Prenatal Nondiscrimination Act (PRENDA) of 2012*, *supra* note 4.

²³⁸ *Sanctity of Life*, *supra* note 230. Franks “will not stand by and watch thousands of innocent babies slaughtered everyday simply because they are not wanted.” *Id.*

²³⁹ Elise Viebeck, *Anti-abortion Groups Turn 'War on Women' Charge Against Democrats*, THE HILL (May 30, 2012, 3:50PM), <http://thehill.com/blogs/healthwatch/abortion/230099-anti-abortion-groups-return-war-on-women-charge-ahead-of-controversial-vote>.

²⁴⁰ H.R. 3541 Sec. 2(a)(1)(K).

²⁴¹ *Id.*

²⁴² *ACOG Committee Opinion: Sex Selection*, AM. CONG. OF OBSTETRICIANS & GYNECOLOGISTS, http://www.acog.org/Resources_And_Publications/Committee_Opinions/Committee_on_Ethics/Sex_Selection (last visited Dec. 13, 2012).

providers to avoid the possibility of unwittingly participating in sex selection” (for nonmedical purposes).²⁴³

Also noted in PRENDA is the opinion of The American Society for Reproductive Medicine (ASRM) that states, similar to the ACOG opinion, “sex-selection for family purposes is ethically problematic, inappropriate, and should be discouraged.”²⁴⁴ The ASRM opinions written on sex selection are not in reference specifically to sex-selective abortion, but rather sex selection and preimplantation or preconception gender selection.²⁴⁵ One such opinion, from 1999, stated that “[i]n 1994, the Ethics Committee of the American Society of Reproductive Medicine concluded, although not unanimously, that whereas preimplantation sex selection is appropriate to avoid the birth of children with genetic disorders, it is not acceptable when used solely for nonmedical reasons.”²⁴⁶ It goes on to say, “[s]ince 1994, the further development of less burdensome and invasive medical technologies for sex selection suggests a need to revisit the complex ethical questions involved.”²⁴⁷ As noted in PRENDA, this opinion does say that “to encourage PGD for sex selection when it is not medically indicated presents ethical problems.”²⁴⁸ However, the ASRM’s 2001 opinion says that “until a more clearly persuasive ethical argument emerges, or there is stronger empirical evidence that most choices to select the gender of offspring would be harmful, policies to prohibit or condemn as unethical all uses of

²⁴³ *Id.* Under its’ Legislative Priorities regarding “Access to All Reproductive Health Services, ACOG has a goal to “prevent unintended pregnancies and reduce the need for abortions.” *ACOG 2012 Legislative Priorities*, AM. CONG. OF OBSTETRICIANS & GYNECOLOGISTS, <http://www.acog.org/Advocacy/ACOG%20Legislative%20Priorities.aspx> (last visited Dec. 13, 2012).

²⁴⁴ H.R. 3541 Sec. 2(a)(1)(K)

²⁴⁵ *See generally* The Ethics Committee of the American Society of Reproductive Medicine, *Sex Selection and Preimplantation Genetic Diagnosis*, 72 FERTILITY AND STERILITY 595 (October 1999), available at http://www.asrm.org/uploadedFiles/ASRM_Content/News_and_Publications/Ethics_Committee_Reports_and_State_ments/Sex_Selection.pdf; The Ethics Committee of the American Society of Reproductive Medicine, *Preconception Gender Selection for Nonmedical Reasons*, 75 FERTILITY AND STERILITY 861 (May 2001), available at http://www.asrm.org/uploadedFiles/ASRM_Content/News_and_Publications/Ethics_Committee_Reports_and_State_ments/preconceptiongender.pdf.

²⁴⁶ *Sex Selection and Preimplantation Genetic Diagnosis*, *supra* note 246, at 595.

²⁴⁷ *Id.*

²⁴⁸ *Id.* at 597.

nonmedically indicated preconception gender selection are not justified.”²⁴⁹ It even goes on to state: “[n]or would it be unethical for parents to use or physicians to provide safe and effective means of preconception gender selection to have a child of the gender opposite to that of an existing child or children.”²⁵⁰

PRENDA’s conclusion that “[t]he American medical community opposes sex-selection abortion”²⁵¹ seems a bit tenuous based on the full context and background of the ACOG and ASRM opinions that it uses. If these organizations’ opinions more conclusively stated that they opposed sex-selective abortion, and if these groups in fact supported the bill itself, then the general claims of protection of women and a feminist ideal within the bill would be better supported.

Also noted in PRENDA is the repeated condemnation of sex-selection abortion by the United States Ambassador to the Commission on the Status of Women.²⁵² This Commission has in fact been vocal about its opposition to prenatal sex-selection based on its concern for the right of the girl child and discrimination against the girl child.²⁵³

IV. BIOETHICAL ANALYSIS

This Part examines the ethical issues that arise from both sex selection and efforts to limit technology as a means of curbing sex-selective abortion. This analysis takes into account the recent literature on this issue, including recent guidance from the United Nations interagency

²⁴⁹ *Preconception Gender Selection for Nonmedical Reasons*, *supra* note 246, at 863.

²⁵⁰ *Id.*

²⁵¹ H.R. 3541 Sec. 2(a)(1)(K).

²⁵² H.R. 3541 Sec. 2(a)(1)(J).

²⁵³ United Nations Comm. on the Status of Women, Legal Subcomm, Rep. on the its 51st Sess., Feb. 26-Marion, 29, (2007), U.N. Doc. E/2007/27-E/CN.6/2007/9, *available at* <http://www.unhcr.org/refworld/pdfid/46c5b30d0.pdf>.<http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N07/282/48/PDF/N0728248.pdf?OpenElement>.

statement on sex selection, “Preventing Gender-Biased Sex Selection.”²⁵⁴ It also draws on the disability literature about abortion based on genetic imperfections to draw a parallel between using technology to identify disability-selective abortion and sex-selective abortion. This part also questions whether autonomy and justice can be balanced when figuring out a government’s policies and laws about sex-selective abortion and gender-identification technology.

A. Female Gender as Disability?

To analyze the ethics of allowing sex-selective abortion in a society, it is instructive to examine the disability literature about abortion based on disability. Disability-selective abortion occurs when one terminates a pregnancy because the fetus is diagnosed with a non-fatal disability, such as Down Syndrome.²⁵⁵ Just as many believe that sex-selective abortion harms women, scholars worry that disability-selective abortion harms the disabled.²⁵⁶ Seeking an abortion because the fetus is found to have a genetic disability is based on prejudice against the disabled community and ignorance of the disabilities themselves.²⁵⁷ Some argue that allowing discriminatory abortion of any kind—based on gender or disability—harms the disabled community by singling them out as “abortable” and conveying to them the idea that their government promotes aborting people like them.²⁵⁸ This transmits the message that living with a disability is a “problem” that the government is intending to “fix” by allowing women to abort babies with disabilities and, in a sense, “save them” from a life of impairment.²⁵⁹

²⁵⁴ *UN Statement, supra* note 14 at 3-4. The United Nations agencies OHCHR, UNFPA, UNICEF, UN Women and WHO issued the report together. *Id.*

²⁵⁵ Martha Field, *Killing “The Handicapped”—Before and After Birth*, 16 *Harv. Women’s L.J.* 79, 115 (1993).

²⁵⁶ *Id.*

²⁵⁷ *Id.*

²⁵⁸ *Id.*

²⁵⁹ *Id.*

A parallel argument could be made with regards to sex-selective abortion. Perhaps by not restricting sex-selective abortion, societies, especially those with a skewed sex ratio, are implicitly agreeing that aborting female fetuses is a valid practice.²⁶⁰ Unfortunately though, restricting sex-selective abortion or gender-identification technology, without at the same time lifting the position of women and girls in that society, does not help. In fact, as discussed above, often wealthier and upper-class women are the ones able to afford to skirt these regulations and, therefore, are more likely to have males. In such a case, the economic burden of having a girl is heightened, with access to underground sex selection available only to those who can afford it (whether by finding a willing provider for a fee or being able to travel out of the country to seek such services).

Some bioethicists have stated that knowingly bringing a child into the world with a disability is “unfair” to the child because it deprives them of a “right to an open future.”²⁶¹ Some feel it is “irresponsible” to bring to life a child with a known disability.²⁶² However, the majority

²⁶⁰ Some have also argued that by prohibiting the use of PGD for sex-selective abortions while allowing PGD for disability-selective abortions, societies are discriminating against the living disabled community and sending an insulting message. Anna McConachy, *“You Shouldn’t Have Been Born:” Does the Regulation of Preimplantation Genetic Diagnosis Send a Discriminatory Message to the Disabled Community?* (2010). McConachy argues that drawing a line between different types of disabilities “increases the likelihood that an explicitly devaluing message will be sent about people whose conditions are listed as ‘serious enough to avoid.’” *Id.* This line-drawing puts some disabled people on the “right side of the tracks and others on the wrong.” *Id.* Such assessments lead to the broadcast of a message that reads, “a child is better off dead than disabled” which can be detrimental to the self-esteem of the disabled citizenry. *Id.* The effect is that “society is simultaneously sending two messages to the disabled and their families—the first message says, ‘since you’re here, we’re going to care for you as best we can,’ but the second says, ‘but everyone would be better off if you were not here at all.’” *Id.* at 37. A similar argument could be made about allowing sex-selective abortion. Perhaps countries that have not regulated this practice are sending a message that families would be better off without girls. The problem with this argument is that banning sex-selective abortion does not raise the status of girls and women at all. Rather, policies that help bolster women’s education and earning potential and women-friendly legal and inheritance policies have a much better likelihood to be effective. Countries such as India and China have had restrictions against sex-selective abortion for decades now, yet the skewed sex ratio continues.

²⁶¹ Adrienne Asch, *Prenatal Diagnosis and Selective-Abortion: A Challenge to Practice and Policy*, 89 Am. J. Pub. Health 1649, 1652 (1999).

²⁶² *Id.*

of the limitations set on disability are socially imposed, not biologically imposed.²⁶³ There is a large gap in “education, employment, income, and social participation” between people with disabilities and people who are not disabled.²⁶⁴ Similarly, girls and women in societies with a skewed sex ratio suffer from the same gap. More needs to be done to address this gap and get to the heart of the son preference issue. The limitations on technology and abortion cannot be effective in a vacuum. This education, employment, income, and social participation gap must be filled. If they are, restrictions against sex-selective abortion and prenatal gender identification technology would be unnecessary because there would be no reason to prefer sons instead of daughters.

B. Autonomy, Justice, and Effectiveness

When analyzing legislative efforts in different countries to restrict sex-selective abortion or access to gender identification technology, it is important to examine whether such efforts are effective. In 2011, the United Nations issued an interagency statement “Preventing Gender-Biased Sex Selection” (UN Statement) that attempted to address this issue.²⁶⁵ The UN Statement discussed the international public health and human rights issues that arise from sex selection, but also focused on whether legislation to limit sex-selective technology or abortion helped the root causes of the problem—male preference.²⁶⁶ The UN Statement suggested that such legislation has not helped curb the desire to have sons. Furthermore, such legislation has been

²⁶³ *Id.* at 1653. *See also* Lynn Gillam, Prenatal Diagnosis and Discrimination Against the Disabled, 25 *J. Med. Ethics* 163, 170 (1999) (“Discrimination against people with disabilities is neither an inevitable result of prenatal diagnosis, nor is it a necessary conceptual part of it.”) However, Gillam does acknowledge that there is a potential for negative effects on the disabled community with the increase in prenatal diagnosis in the abortion movement. *Id.* These negative effects, while not inevitable or even likely, must be recognized and countered to avoid “slippery slope” discrimination. *Id.*

²⁶⁴ *Id.*

²⁶⁵ *Id.*

²⁶⁶ *Id.*

ignored by some women and their families.²⁶⁷ These families continue to value sons over daughters because of social and economic realities.²⁶⁸ Imbalances in sex ratios have reflected a societal, cultural, political, and economic preference for male children.²⁶⁹ Although technological advances have compounded the problem, they are not the cause of the skewed sex ratios.²⁷⁰ The crux of the problem is rooted in discrimination against women through institutions of marriage systems, family formation, and property inheritance laws in certain parts of the world.²⁷¹

The UN Statement described the pernicious effects of son preference in women's lives.²⁷² There is huge pressure placed upon women in countries like India and China to produce sons.²⁷³ This can have debilitating effects on the mental and physical health of women.²⁷⁴ Due to this pressure, women try to discover the sex of a fetus despite legislation forbidding it in countries like India and China.²⁷⁵ These women are often forced or coerced by their family or the community to abort a female fetus.²⁷⁶ It does not appear that laws restricting sex-selective abortion or abortion in general protect these women.²⁷⁷ Instead, such legislation sometimes forces some women to have unsafe, unregulated, illegal, and often high-risk abortions.²⁷⁸ This not only puts women's health at risk but also perpetuates son preference.²⁷⁹

The global efforts to limit sex selection through restricting access to gender identification technology and abortion limit the autonomy of women to make decisions about their bodies. In some of these cultures, it is arguable what individual autonomy women have. Some have argued

²⁶⁷ *Id.*

²⁶⁸ *Id.*

²⁶⁹ *Id.*

²⁷⁰ *Id.*

²⁷¹ *Id.*

²⁷² *Id.* at 5.

²⁷³ *Id.*

²⁷⁴ *Id.* at 5.

²⁷⁵ *Id.*

²⁷⁶ *Id.*

²⁷⁷ *Id.*

²⁷⁸ *Id.* at 6-9.

²⁷⁹ *Id.*

that there is no autonomy problem with banning sex-selective abortion because the choice to have a sex-selective abortion of a female fetus is “based on patterns of male preference and female subordination.”²⁸⁰ Further, there is no “right to choose” in sex-selective abortions because such choices do not promote liberty.²⁸¹ Scholars argue that the only way to promote liberty is to choose justice, which they argue means restricting such abortions.²⁸²

However, even limiting women’s choice to adhere to socially acceptable norms, however harmful, may have serious consequences. A real problem is that if a woman is forced to carry a female fetus to term—whether by forbidding abortions or gender identification technology—consequences of violence, abandonment, divorce, or death (created by the culture of gender discrimination arising from son preference) may result.²⁸³

In an attempt to protect against female gendercide, women who have an abortion for non-sex-selective purposes are unable to do so, many times in cases where they may have a valid medical purpose.²⁸⁴ The legal restrictions often affect the poorer and more disadvantaged women in a population more than the wealthier women, who can exercise the power of their pocketbook and receive an illegal abortion.²⁸⁵ Legal prohibitions against abortion, however well intentioned, end up putting poor and less educated women’s health in danger.²⁸⁶ With the reduced accessibility of legal and safe abortions through legislation, women continue to look elsewhere for such procedures.²⁸⁷ The legislation in itself does not curb son preference; rather it often results in unsafe procedures that hurt instead of protect women.²⁸⁸ The fact that the legislation

²⁸⁰ Cherry, *supra* note 55, at 164.

²⁸¹ *Id.*

²⁸² *Id.*

²⁸³ *UN Statement, supra* note 14 at 6-9.

²⁸⁴ *Id.*

²⁸⁵ *Id.*

²⁸⁶ *Id.*

²⁸⁷ *Id.*

²⁸⁸

hurts less advantaged women more is a justice problem not currently addressed by the global responses to this issue. In fact, it may exacerbate the disparity. If richer women are able to skirt legislation and get access to technology and abortion services that results in them having boys over girls, in cultures where boys are more valued, this enhances the divide among classes of women. Restricting access to technology and abortion without addressing the reasons that male preference exists in the first place is counterproductive.

The UN Statement discussed the need for supportive measures for girls and women, instead of restrictions on abortion, as an answer to the skewed sex ratios.²⁸⁹ Women and girls need access to information, health care services and nutrition, education, and personal security to combat and prevent gender-biased sex selection.²⁹⁰ The UN Statement did advocate legislation and policy, but not to restrict access to gender identification policies or abortion. Rather, the UN Statement advocated legal and socioeconomic policies that would maintain gender equality and address the causes of son preference.²⁹¹ The purpose of such policies would be to advocate for a change in attitudes towards females and to balance gender inequalities.²⁹² This is, unfortunately, very difficult to do. Politically, it may be more expedient to ban access to technology because it is a quick and obvious fix. However, in order to prevent the discrimination of girls and women, what would be effective is not as immediate. There needs to be access to comprehensive and equal education for girls and women.²⁹³ Women also need more employment opportunities so that they are not seen as a burden.²⁹⁴ Education and economic empowerment would help women gain autonomy in societies.²⁹⁵

²⁸⁹ *Id.* at 9-11.

²⁹⁰ *Id.*

²⁹¹ *Id.*

²⁹² *Id.*

²⁹³ *Id.*

²⁹⁴ *Id.*

²⁹⁵ *Id.*

Additionally, inheritance laws must be changed to favor gender-neutral policies.²⁹⁶ It is essential to make it possible for daughters to inherit family property.²⁹⁷ The UN Statement suggested requiring both sons and daughters to be responsible for the care of parents in proportion to the share of property to be inherited.²⁹⁸ Additionally, it suggested providing direct subsidies to parents of girls at the time of birth, scholarship programs for girls, increased gender-based school quotas, and financial incentives aimed at improving women's economic situation.²⁹⁹

The UN Statement acknowledged the reality that the

prevention of gender-biased sex selection will require major commitment and sustained and concerted efforts by governments, civil society, international agencies and all others working towards the goal of gender equality. A carefully planned and systematic approach involving stakeholders at all levels is needed to put in place supportive legal and policy measures for girls and women. This must be combined with the use of non-judgmental and non-coercive mass-media strategies and other social measures to encourage behavior change. Imbalanced sex ratios are an unacceptable manifestation of gender discrimination against girls and women and a violation of their human rights.³⁰⁰

Some scholars have argued that regulating sex-selection techniques can prevent discrimination against females³⁰¹ and advocate for an overall ban on preconception sex

²⁹⁶ *Id.*

²⁹⁷ *Id.*

²⁹⁸ *Id.*

²⁹⁹ *Id.* The interagency statement makes it clear that, "An essential element in efforts to reduce sex ratio imbalances are advocacy, sensitization and awareness-raising programs conducted by both governments and nongovernmental organizations." *Id.* The statement goes on to suggest that, "Experience also indicates that broad, integrated and systematic approaches need to be taken if efforts to eliminate son preference are to succeed. Such approaches should involve not only governmental actors but also nongovernmental organizations and other opinion-makers and advocates to ensure that the social norms and structural issues underlying gender discrimination are addressed. Within this framework, legal action is an important and necessary element but is not sufficient on its own. More research is needed to determine which mix of policies and interventions work best in which context and why." *Id.*

³⁰⁰ *Id.* at 12.

³⁰¹ Rachel E. Remaley, "The Original Sexist Sin": Regulating Preconception Sex Selection Technology, 10 Health Matrix 249 (2000). Remaley argues that in the United States, substantive due process and "procreative liberty is not an absolute right and preconception sex selection does not fall under the umbrella of substantive due process protection. *Id.*

selection.³⁰² Others advocate for a tempered approach, such as wait-listing families seeking sex-selection technology to at least delay the decision.³⁰³ These scholars believe that allowing sex selection has a detrimental effect on women.³⁰⁴ They argue that society should strive to create parents who value their children for who they are rather than what they want, and that women should value themselves as women enough to want to create female offspring.³⁰⁵ Some believe that the gender equality goal in our society has been insulted by the existence of sex selection.³⁰⁶ However insulting it may be, unfortunately, it is a reality. Banning access to abortion services and gender identification technology unfortunately adds injury to this insult. Allowing some of the newer technology, such as PGD and MicroSort, may actually reduce the number of sex-selective abortions because families will be choosing the gender they want. Additionally, the UN Statement's approach of long-range policies that raise women's status may have the potential to prevent the preference for sons over daughters, which seems to be the ultimate goal of many countries' laws regulating sex-selective abortion. In the United States, PRENDA and the sex-selective state laws seem more concerned with weakening a general right to choose rather than a sincere commitment to gender equality. In contrast, countries in Asia and Europe aim to curb son preference by restricting access to gender identification technology and abortion services. Unfortunately, such efforts have been ineffective.

South Korea may serve as an example of a society that has begun successfully addressing the issue of son preference.³⁰⁷ To help reduce the practice of sex selection, South Korea focused

³⁰² *Id.*

³⁰³ Joni Danis, *Sexism and "The Superfluous Female": Arguments for Regulating Pre-Implantation Sex Selection*, 18 Harv. Women's L. J. 219 (1995).

³⁰⁴ *Id.*

³⁰⁵ *Id.*

³⁰⁶ *Id.*

³⁰⁷ *Gendercide, supra* note 1.

on increasing female education.³⁰⁸ Additionally, the court system in South Korea supported equal rights in areas of inheritance and anti-discrimination lawsuits.³⁰⁹ Finally, public education campaigns about son preference has led some to believe that son preference is too “old-fashioned and unnecessary.”³¹⁰ Countries like China and India should follow in the footsteps of South Korea by focusing on education and legal equality of men and women. Additionally, many have suggested that China must terminate its “one-child policy” as it is no longer needed to reduce fertility.³¹¹ In all societies, raising the economic value of girls by enacting laws and supporting female education would help much more than the global legislative efforts that curb access to technology and abortion services.³¹² It is no doubt easier to use legal methods to ban gender identification or selection technology than to use the law to achieve the more important and effective long-term goal of curbing son preference. However, the use of legal methods to restrict access to such technology has been ineffective.

CONCLUSION

This Article has described the problem of sex selection in various countries and the new technologies that aid such practices. The purpose of this Article was to demonstrate how different countries are addressing the issue of sex selection and to examine such efforts from a bioethical viewpoint. Unfortunately, the global efforts to restrict sex-selective abortion and gender identification technology do not appear to be working. Son preference still exists in many parts of the world. The UN Statement suggested practical common sense solutions, such as increasing educational opportunities for girls. Unfortunately, effecting such policies is much

³⁰⁸ *Id.*

³⁰⁹ *Id.*

³¹⁰ *Id.*

³¹¹ *Id.*

³¹² *Id.*

more difficult than so-called legislative “fixes.” There is surprisingly little scholarly legal literature about sex-selective abortion. This Article is a first step to describe the problem and legal efforts to address the problem, but more scholars need to focus on this area. Large-scale, public-health-law research examining the demographics in different countries correlated with restrictions on sex-selective and gender identification technologies would be very helpful in being able to create public health policy that would help curb son preference. Additionally, population-based studies examining success stories, such as South Korea, could shed light on which policies work and how to effect these policies. Until son preference is combated, the legislative efforts to stop sex selection will not be effective and may end up hurting females rather than helping them.