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**NON-MEDICAL SEX SELECTION: WHY REPRODUCTIVE AUTONOMY
MATTERS. PERSPECTIVES AND MODELS FROM ETHICS AND LAW**

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To My Mother

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ABSTRACT

Recent advances in biomedical technologies have made it possible to implement reproductive choices that were largely unavailable in the past. Many of these technologies, such as preimplantation genetic diagnosis, in vitro fertilization and non-invasive prenatal tests, have been successfully integrated into healthcare systems and play an essential role in preventing or treating numerous diseases. Widespread use of these technologies, nevertheless, has led to various ethical, social and legal issues, among which stands the non-medical sex selection.

This work focuses on discussing issues related to non-medical sex selection from the reproductive autonomy rationale. It seeks to illustrate how the concept of autonomy functions in bioethical and legal discourses. The thesis encompasses normative ethical analysis of main bioethics theories in an attempt to argue against a common perception that reproductive autonomy rationale supports women's choice to select the sex of her children. This rationale stresses the importance of a private and individual decision-making process with regard to issues of reproduction.

Additionally, the work provides a comparative study of the three main regulatory models of sex selection. Results of the analysis underscore the existence of regulatory gaps in some models and lack of regulatory clarity in others. The findings of the thesis suggest a 'right' policy regulation on non-medical sex selection that also includes considerations of outcomes of ethical debates on reproductive autonomy and the harm principle.

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LIST OF ABBREVIATIONS

AI	Artificial insemination
ARS	Assisted Reproductive Services
ART	Assisted Reproductive Technologies
ASRM	American Society of Reproductive Medicine
BGI	Beijing Genomics Institute
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CRC	Convention on the Rights of the Child
EC	European Council
ECASRM	Ethics Committee of the American Society of Reproductive medicine
ECHR	European Court of Human Rights
ECtHR	European Convention of Human Rights
EU	European Union
FISH	Fluorescence in Situ Hybridization
HFEA	Human Fertilisation and Embryology Authority
HRC	Huntington Reproductive Center
ICCPR	International Covenant on Civil and Political Rights
ICPD	International Conference on Population and Development
ICRW	International Center for Research on Women
ICSI	Intracytoplasmic Sperm Injection
IFFS	International Federation of Fertility Societies
IUI	Intrauterine Insemination
IVF	In-vitro Fertilization
NIPT	Non-invasive Prenatal Test
NMSS	Non-medical Sex Selection

PCPNDT	Pre-Conception and Pre-Natal Diagnostic Techniques
PGD	Preimplantation Genetic Diagnosis
PGS	Preimplantation Genetic Screening
PRENDA	Prenatal Nondiscrimination Act
TEU	Treaty on European Union
TFEU	Treaty on the Functioning of the European Union
UDHR	Universal Declaration of Human Rights
WHO	World Health Organization
WVA	World Vision Armenia

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Chapter 1: Thesis Introduction

Since ancient times, prospective parents have attempted to conceive a child of a specific sex. Various methods have been employed to influence the sex of future children: for instance, some have suggested that special diets, timing of intercourse in relation to ovulation, and other ‘folk’ methods could result in conceiving a child of the desired sex (Wert and Dondorp, 2010). With recent technological developments in the field of reproductive technologies, selection of fetal sex has not only become possible, but it has also developed as a common practice. New reproductive technologies, which allow fetal sex selection (sex determination) with a high rate of accuracy and minimum invasion, now raise a number of ethical (moral) and legal considerations. Although these technologies have been developed for therapeutic purposes — that is, avoidance of birth of a child with a sex-linked genetic disorder — their use has become widely controversial. This thesis will focus on the implications of sex selection that have no medical indication.

Non-medical sex selection is one of the most controversial topics of bioethical debate nowadays. As Wilkinson mentions, “sex selection serves as an illuminating example from a much wider set of questions about the legitimacy of certain reproductive choices, and about the extent to which law should constrain procreative liberty.” It is a particularly complex issue, in which bioethics, public policy, law, and technology are loosely intertwined. Regulation of non-medical sex selection is also the result of a robust philosophical analysis of ethical and moral arguments. The issue has been predominantly associated with gender discrimination and harmful results stemming from the widespread selective practices. During the past few decades, as a result of skewed sex-at-birth ratios, many Asian countries (China, India, and Vietnam) have adopted policies aimed at banning non-medical sex selection. Gender-biased selective practices have also been traced in the South Caucasus and Balkan countries, and this has resulted the use of reproductive technologies being banned for fetal sex determination and any consequent sex-selective abortions.

The prohibition of non-medical sex selection, aimed at avoiding gender imbalance or an increase in gender discrimination, is not a frequently disputed topic. However, in countries where gender discrimination is not apparently manifest, similar regulations do also exist. In most European countries non-medical sex selection has been banned through the adoption of the

European Convention on Human Rights and Biomedicine (Oviedo Convention).¹ Here, the limitation of reproductive choices has been associated with fears of promoting gender imbalance or gender discrimination practices, and the risk of perpetuating social injustice. Other potential negative effects of sex selection, including the harm to the offspring and the misuse of medical resources for non-medical purposes, will be addressed more closely in the analytical chapters of this thesis.

Despite such rationales, the ban on non-medical sex selection has been continuously attacked by proponents of the expanded version of reproductive autonomy. The importance of women's autonomy over deciding on reproductive matters —such as whether or not to procreate, and with whom and when to procreate — has been the core belief of 'reproductive autonomy'. This notion of autonomy was initially developed as a one of the key biomedical principles by Beauchamp and Childress, together with the principles of justice, beneficence and non-maleficence. The original idea of reproductive autonomy involved the negative right of non-interference from state or other bodies. Currently, the scope and practical applicability of autonomy is continuously increasing along with the availability of different reproductive technologies.

What is Sex Selection?

Sex selection, also commonly referred to as gender selection, is a process aimed at achieving a certain chromosomal sex of the offspring. It largely reflects the desire of parents to control the future gender of their offspring. Sex selection may be carried out based on preference of either sex; however, the vast majority of studies suggest that the subjects of selection are mostly male children (Guilmoto, 2013), (Guilmoto, 2012). These studies mainly comprise investigations of sex ratios (including sex-at-birth) in such countries as China, India, Vietnam, and other East or Central Asian countries (Azerbaijan, Armenia, Georgia). Several factors are associated with male preference: patriarchal societies, easy access to reproductive technologies, or low fertility rates

¹ Full name- Convention for the protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine: Convention on Human Rights and Biomedicine, April 4, 1997

(Guilmoto, 2012). Other factors include the selection of fetal sex for family balancing reasons: i.e., to ensure both sexes of children are present in a family. Selection based on these factors is also known as social sex selection. On the other hand, there are cases of medically indicated selection, which intend to prevent the birth of a child with serious health conditions.

Distinction between Therapeutic and Non-therapeutic Sex Selection

The distinction between medical and non-medical sex selection plays a central role in ethical and legal discussions of the issue. The categorization of selection ultimately decides whether the procedure will be permitted or not. In this section I discuss both categories of selection by examining the most important legal and medical considerations that arise from such distinction in practice.

Medical sex selection is a procedure targeted at preventing the birth of children with certain diseases or traits that are considered to be health related disabilities (e.g., Hemophilia A and B, Lesch-Nyhan syndrome, colour blindness, spina bifida). Most of these diseases are hereditary sex-linked diseases, in which cases parents are not only allowed but also often advised by physicians to prevent the pregnancy. The practice has mainly been criticized through Disability Rights Critique (T., 1998), (Parens, 2003), although it has never faced such intense ethical debate as non-medical sex selection.

I share the common opinion that medically indicated sex selection is a permissible procedure aimed to protect the rights of the unborn child through preventing serious potential harm. It is justifiable in terms of the future quality of life not only of the child but also of his parents. Clearly, the care of impaired children demands much greater resources and effort as compared to the care of healthy ones, and forcing parents to simply accept and deal with such a situation cannot be acceptable. All across the world, policy regulations that permit medically indicated sex selection reflect these arguments. Countries that allow medically indicated sex selection include the vast majority of European countries (Germany, Belgium, France, and Italy), Canada, Australia, and China. Only a few countries, such as Austria, Switzerland, South Korea or Vietnam entirely prohibit the practice of health-related sex selection.² Furthermore, the

² <https://ivf-worldwide.com/education/introduction/ivf-regulation-around-the-world/ivf-sex-selection.html>

permissibility of medical sex selection has been emphasized in other European policy documents, such as the aforementioned Oviedo convention, and the Report of the Council of Europe (2011a) that led to adoption of Resolution 1829.³ The Report condemned an already common practice of non-medical sex selection in several Council of Europe countries (Armenia, Azerbaijan, and Georgia) and once again underscored the importance of maintaining the practice solely for the cases of ‘sex-related serious hereditary disease,’ as prescribed by the Convention.

The Report addressed only one aspect of non-medical sex selection that is based on a preference for male children. It did not mention sex selection for family balancing purposes, which is perhaps a more ethically controversial issue in Europe — and neither did the Convention. Both documents are limited to highlighting the need for ‘serious medical’ causes for selection. While this definition seems simple, in practice it causes difficulties due to ambiguity of the concept.

Before discussing the concerns over the definition, it is necessary to introduce some of the most common sex-linked medical conditions and the way they are inherited by the offspring of either sex. X-linked inheritance can be either recessive or dominant. Recessive X-linked inheritance is a vertical transmission of traits from female carriers that affects sons. X-linked dominant inheritance, on the other hand, can affect both sexes with daughters of male carriers being always affected (Germain, 2006). There are currently more than 100 X-linked disorders or traits, with the majority of them being recessive. Dominant inherited disorders are far less common. Harper (2004) mentions several simple rules applied to genetic counselling issues in X-linked inheritance. Those rules include, among others, the lack of male-to-male transmission, the inheritance of the mutant gene by all daughters of the affected man, or the 50% probability of passing the mutant gene by carrier women to their sons.

Meanwhile, the recessive X-linked inheritance of mutant genes has different outcomes in males and females. An affected recessive gene has little impact in a female because there is a second normal copy of the gene on the other X chromosome. However, it is different in case of a male, where the mutated gene is passed to all the females. This is explained by the difference of

³ Resolution 1829 (2011) on Prenatal sex selection. <https://assembly.coe.int/nw/xml/XRef/Xref-XML2HTML-en.asp?fileid=18020&lang=en>

male Y chromosome from the X chromosome, as well as the fact that there is no second copy of genes (Germain, 2006).

An example of recessive inheritance of mutated genes is Hemophilia (either A or B type). Hemophilia is a genetic disorder that reduces the body's ability to produce blood clots, thus leading to spontaneous or post-traumatic excessive and lengthy bleeding. It occurs in one out of 5000 males (around 400,000 males worldwide), many of whom stay undiagnosed throughout their lives (Srivastava, 2013). Affected people with mild hemophilia usually have minor symptoms, such as heavy bleeding from a dental procedure, an accident, or surgery. Severe hemophilia symptoms include damaged joints, deep internal bleeding, and transfusion transmitted infection, etc., which impair the individual's ability to work or undertake normal activity (Miesbach, 2019). These symptoms are of much higher frequency, and more often occur spontaneously rather than due to trauma. In contrast to mild and moderate types of hemophilia, severe hemophilia is often revealed during the first two months of life and can be life-threatening.

Symptoms of moderate hemophilia are variable and can be similar to both mild and severe symptoms. These generally lead to discomfort strong enough to cause interference with the person's usual activity.

Currently there are two methods of dealing with hemophilia: prevention of the disease, and treatment. Prevention of hemophilia can be carried out by in-vitro fertilization together with preimplantation genetic diagnosis, and through egg donation or sperm sorting. In all cases couples may choose to select the embryo not affected by the mutated genes, which is most often a female. The other option is to interrupt the pregnancy when the genetic or blood tests reveal severe symptoms.

The treatment of hemophilia is performed by replacing the missing blood clotting factors. Clotting factor therapy, introduced in the 1960s and 1970s, became widely available for patients with severe symptoms. O'Hara 2017) notes that since the outset of clotting factor therapy, the life expectancy and quality of life of patients with severe hemophilia have dramatically increased. Even though patients still have to endure lifelong injections, pain, or progressive joint damage, their life expectancy is considered nearly normal — approximately 10 years shorter than that of an unaffected person (O'Hara, 2017). In addition, several recent studies have demonstrated that gene therapy has the potential to revolutionize the treatment of patients with severe hemophilia by

remarkably decreasing the annualized bleed rate and clotting factor usage (Nienhuis, 2017), (Doshi, 2018), (Miesbach, 2019).

There are a few questions one might ask after a careful analysis of characteristics and symptoms of X-linked diseases such as hemophilia. *First*, who needs to determine the severity of the medical condition that will ultimately legitimate sex selection? *Second*, can we still allow sex selection if an X-linked disorder is manifested with its severe symptoms, but is otherwise not life-threatening? *Third*, should regulatory frameworks take into consideration current or potentially positive treatment options available for the type of disorder?

To answer the first question Hendl illustrates a comparison between two different-linked disorders: Duchenne muscular dystrophy (DMD), and colour blindness (Hendl T., 2015). Severe symptoms of DMD appear in early childhood and are characterized by progressive muscle weakness and atrophy in affected males. There is currently no effective treatment of the disease, and although corticosteroid therapy has been shown to improve strength in muscles, life expectancy and the quality of life of affected people are low (Eagle M, 2002), (Toussaint M, 2006).⁴ On the other hand, colour blindness is a disorder that lacks severe symptoms, pain, or bodily function disruption, and also does not influence life expectancy. It is more prevalent in men and is expressed as defects in identification of red and green colours. Although both conditions are a result of X-linked recessive inheritance, they do not affect the individual on the same level. DMD is associated with a serious decrease in quality of life, while from the medical point of view colour blindness is not a serious condition.

Hendl argues that there is a substantial issue with regard to the determination of ‘severity’. If from a medical point of view, potential DMD or severe hemophilia can be a justified reason for sex selection, then colour blindness will not meet the condition of severity. However, parents’ perception of severity can be different from the medical definition. Some of them might consider even colour blindness as a severe disorder, as in the case illustrated by Hendl, where a colourblind child born in a family of visual artists can experience a serious disability (Hendl T., 2015). In other cases, maintenance of a child even with moderate hemophilia can be both emotionally and financially burdensome for parents.

⁴ Life expectancy of individuals with DMD is documented to have increased to an average of 25 to 30 years.

These examples also demonstrate the complexity of the second issue. Most regulatory policies simply state that sex selection for medical reasons can be performed in the case that there is a ‘severe’ or ‘serious’ X-linked disease, without clearly defining precisely what constitutes a severe or serious medical condition. Currently, regulations do not differentiate between various X-linked diseases. This perpetuates a notion that most of these diseases, even those with insignificant symptoms, are sufficient to carry out selection. What is important to realize is that even if tests show a genetic defect, it does not necessarily entail severe harm to the children. Moreover, with the advancement of different treatment options for X-linked diseases, individuals can hope for significant improvement of their health conditions, and even recovery (e.g., through gene therapy).

In this section I have presented an overview of the main distinctions between medical and non-medical sex selection. Although I agree with the formal distinction, I have underscored the problematic nature of policy regulations that lack clarity. Not including a list of specific diseases or symptoms results in the erroneous notion that all X-linked genetic diseases carry a serious medical condition and are thus to be avoided. Prospective parents should be given clearer criteria for sex selection, such as symptoms of diseases that significantly lower life quality or expectancy and have no current or potential treatment. Genetic counseling should also include information on all available treatment options when the condition is manageable.

Research Questions and Methodology

The main objective of this work is to explore if the State has a compelling interest to regulate non-medical sex selection and if any of those reasons justify its prohibition. Having discussed sex selection (including for family balancing purposes) in different contexts and in the subsequent chapters of this work, I aim to address the fundamental arguments for and against sex selection and ask whether there is any form of it that could be both ethically and legally defensible.

Thus, the thesis asks the following two main research questions:

1. **Whether the concept of ‘reproductive autonomy’ interrelates with the ban on sex selection, and if so, then how?** In order to answer these questions, I will pose additional

questions, such as: what does ‘reproductive autonomy’ entail? Which theories explain the concept of ‘autonomy’ and how do they contrast with or complement each other?

2. **What should be the ‘right’ policy regulation on non-medical sex selection, considering debates on reproductive autonomy and the harm principle?** What are the reasons and implications behind the liberal policies on non-medical sex selection? What limitations of reproductive autonomy should be relevant for legal discussions?

I will seek to answer the first question through the ethical analysis of theories explaining the concept of ‘autonomy’ with regard to selecting the sex of the child. For this purpose, I will pay particular attention to the main arguments of libertarian scholars in favour of an expanded notion of autonomy. I will attempt to argue against these arguments based on the analysis of other complementary theories; such as relational autonomy and child autonomy.

The analysis of these theories, which provide a foundation of debates on maternal-fetal conflict, is essential for understanding how different regulations address (prioritize) one interest over the other, or try to balance conflicting interests in ethically (morally) sensitive cases — such as abortion, sex selection, and moral or legal personhood of the fetus and embryo. In addition, the thesis also includes legal analysis of the three main models of sex selection regulation. Apart from the analysis of statutory laws, some of the most recent and unique decisions of judiciary and ad-hoc committees will be critically analyzed.

Finally, in chapter 2, I will summarize results of a short content analysis of websites of reproductive and genetic clinics, which provide ARS.

Autonomy Theory

Before proceeding to the description of the thesis structure, it is necessary to review how the term ‘autonomy’ is defined in bioethics and in philosophy in general. Usually, in biomedical ethics this notion is commonly understood as self-government. But the exact meaning is controversial: the autonomous individual acts freely in accordance with the self-chosen plan, and personal autonomy is, at minimum, self-rule that is free from both controlling interference by others and

from limitations (May, 2005), (Oshana, 1988), (Dworkin G., 1988). However, the scope of autonomy leaves room for rather vague interpretations, especially when it comes to discussions about sex selection or genetic interventions (enhancement). In his groundbreaking paper for the Hastings Center, Gerald Dworkin said:

‘The advent of new modes of behavioral technology raises important issues for our understanding of human nature and our moral views about how people ought to influence one another. On the theoretical level we find claims that inadequate explanatory schemes for understanding human behavior can dispense with notions of free will, dignity, and autonomy. On the practical level we are faced with claims of effectiveness, efficiency, and moral legitimacy for methods of influencing people such as operant conditioning, psychotropic drugs, electrical stimulation of the brain, and psychosurgery.’ (Dworkin G., *Autonomy and Behavior Control*, 1976)

Dworkin argued that we have to consider these theoretical and practical developments as matters for our choices as agents, and that autonomy is realized via a relation between the agent and her desires and motivations.

In bioethics, autonomy is coming under sustained criticism from a variety of perspectives. It has most often been understood as a feature of individual persons, and is generally seen as a matter of independence, or at least a capacity for independent decisions and actions (O'Neill, 2002). Meanwhile, reproductive autonomy (or otherwise known as procreative autonomy), according to O'Neill, has been extended to reflect the expansion of possibilities for individual self-determination and independence that are offered by new reproductive technologies.⁵

In philosophy, autonomy has been equated with liberty (both positive and negative), dignity, integrity, individuality, independence, responsibility, self-knowledge, self-assertion, critical reflection, and freedom from obligation, etc. (O'Neill, 2002). It is a central value in the Kantian tradition of moral philosophy, but it is also given fundamental status in John Stuart Mill's version of utilitarian liberalism (Christman, 2008). In the realm of moral theory, seeing autonomy as a

⁵ It is worth mentioning that in bioethics terms ‘autonomy’, ‘reproductive autonomy’, ‘reproductive freedom’, ‘procreative liberty’ are being used interchangeably. Whether we speak about ‘autonomy’ or ‘reproductive freedom’, both concepts carry similar ethical and legal meaning.

central value can be contrasted with alternative frameworks, such as an ethic of care, certain types of utilitarianism, and an ethic of virtue (Ibid.). Traditionally, autonomy has been thought to reflect assumptions of individualism in both moral thinking and political designations of political status, especially in the Western world. In contemporary moral and political philosophy, increasing moral weight is given to an individual's ability to govern herself, independent of her place in a metaphysical order, or her role in social structures and political institutions.

Two most prominent distinctions of autonomy discussed in the moral and political philosophy are 'moral' and 'personal (individual)' autonomy. 'Moral autonomy' refers to the capacity to impose the moral law on oneself, and, following Kant, it is claimed as a fundamental organizing principle of all morality (Christman, 2008). For Kant, the self-imposition of universal moral law is the ground of both moral obligations in general and the respect others owe to us (and that we owe ourselves). This self-imposition of the moral law is autonomy. To be more concrete, we acknowledge ourselves as free only when we have the ability to use reason to choose our own actions based on the determination of what is morally valuable for ourselves. (Hill, 1989).

Kantian theory of moral autonomy is in many ways related to our discussion on moral aspects of sex selection; however, the thesis does not aim to focus on the metaphysical discussions of the concept. Rather, it will provide a short introduction to Mill's account of autonomy and relevant principle of harm, as a theoretical basis for further practical analysis. Contrary to moral autonomy, personal or individual autonomy can be exhibited in any aspect of people's lives, not limited to questions of moral obligation (Dworkin G., 1988). Autonomy can be discussed from the moral theory perspective without being attributed to Kant. For example, autonomy is 'one of the elements of well-being' according to Mill's moral and political philosophy. 'Civil or Social Liberty' is the only way to secure the development and flourishing of a 'person's individuality and character'. Such persons, Mill explains, can flourish only if they enjoy protection not only against the 'tyranny of the magistrate'— the tyranny of despots and dictators — but also against the less obvious 'tyranny of the majority' or the 'society' (O'Neill, 2002).

Discussing paternalism, Mill mentions that "if a person's happiness depends on her exercise of the capacities that make her a responsible agent, then a principal ingredient of her own good must include opportunities for responsible choice and self-determination." Self-governance, according to Mill, requires both positive and negative conditions. The positive conditions are assumed as an education to develop deliberative competence by providing understanding of different historical

periods and social possibilities, and developing cultural and aesthetic sensibilities, etc. Meanwhile the negative conditions that self-governance requires are various liberties of thought and action (Mill, 1989). However, Mill's basic liberties, which include liberties of conscience, expression, tastes, pursuits — and most importantly, life-plans, are not intrinsic and can be limited by the harm principle (Feinberg J., 1984).

The harm principle is a fundamental issue that has occupied for centuries not only philosophers' (theorists') but also practitioners' minds. One example is in bioethics, where it serves as a basis for the principle of nonmaleficence. This principle asserts an obligation to not inflict harm on others,⁶ which also includes obligations of not imposing *risks* of harm (Beauchamp & Childress, 2001).

There are, however, several questions that arise when we try to apply Mill's principle of harm in relation to the sex selection issue. In particular, the broader question of what the universal harm is of sex selection. What is the harm caused to society? What is the harm caused to other individuals? Is there any harm caused to society or individuals as a result of preconception selection methods, as opposed to selective abortions? These and many other questions have been a focus of debates in bioethics for a few decades. As a result, multiple interpretations of autonomy within bioethics have been developed.

These interpretations mainly include secular-liberal (mostly Anglo-Saxon) and more traditional (including feminist relational) approaches toward sex selection. In effect, in the 1980s, feminist philosophers began to question one's capacity to make morally acceptable decisions. A growing recognition of how gender differences privileged certain aspects of moral knowledge led to the development of an ethics of care, which shifted the focus toward how we reason about morally difficult choices. This feminist turn was also applied to conceptions of autonomy. These philosophers described a different way of thinking about autonomy that involved relational rather than individualistic conceptions of agents. (Brudney, 2009) (Walker M. U., 2007), (Gilligan, 1982)

⁶ In medical ethics this principle has been closely associated with the maxim *Primum non nocere*: 'Above all (or first) do not harm'.

Chapters Outline

The thesis is divided into four main chapters and the conclusion chapter. The technological nuances of sex selection are explained in Chapter 2. The theoretical background and analysis of the concept of reproductive autonomy are described in Chapters 3 and 4. The gender-related issues of the exercise of autonomy and their implications are presented in Chapter 5. The policy analysis and some recommendations are given in Chapters 6, 7 and 8.

Chapter 2 aims to provide an overview of reproductive technologies and techniques used for non-medical sex selection. In particular, it will briefly address the ‘do it yourself’ methods of selections (Cytotec/Misoprostol), and ultrasonography as the major tool used for aborting non-desirable fetuses. The main focus of the chapter is, however, discussing the procedure and cost-effectiveness of the most recent tools of selection: sperm sorting, preimplantation genetic diagnosis, and non-invasive prenatal tests. The choice of these technologies can be justified by several rationales. First, sperm sorting and PGD were selected as preconception (preimplantation) methods that do not lead to abortion of the fetus. Regardless of this fact, they can also lead to controversial outcomes, such as destruction of embryos and their moral status. Unlike sperm sorting and PGD, non-invasive prenatal tests are used after conception in order to identify the sex of the fetus. It follows that NIPT results in sex selective abortions. However, given the fact that NIPT tests can be carried out during early gestational period,⁷ they can lead to abortion of the fetus within legally acceptable terms. This makes it more difficult to implement sex selective policies in countries where fetal sex disclosure before 12th week of gestation is prohibited by law. Secondly, as outlined above, genetic technologies are not the key tool of sex selection as of yet; nevertheless, they have the potential to become as such. Considering its higher degree of accuracy and its decreasing costs, genetic testing can successfully replace the ‘infamous’ ultrasound diagnosis. Finally, all three technologies have a therapeutic purpose, which is the detection and elimination of genetic diseases.

The 2nd chapter will address the three technologies separately, including the procedures of fetal sex determination and selection, their accuracy rates, and their costs and regulatory frameworks. Regulatory frameworks with regard to access and implementation of genetic

⁷ According to different sources from 7th to 10th weeks of gestation. The implications of the use of NIPT tests will be addressed in more details in the following sections.

technologies will be analyzed in countries with widespread sex selective practices, with the aim of revealing the current and potential use of these technologies for non-therapeutic purposes. In addition, the study will include a brief analysis of websites of genetic clinics providing NIPT in China and India. This will provide an understanding of the kind of information that is being provided to consumers with regard to the potential of these technologies to detect fetal sex.

Chapters 3 and 4 will address the content and limitations of ‘autonomy’ from the perspectives of several prominent liberals and feminist scholars. In particular, it will be discussed how ‘liberal’ scholars justify non-medical sex selection through an extended application of J.S Mill’s principle of harm. On the other hand, more traditional (feminist) approaches will be presented to argue whether emerging technologies in the field of reproduction should be used for non-therapeutic, and in particular sex-selective, reasons. It should be noted that liberal, egalitarian, relativist, and feminist relational theories currently underpin the bioethical discourse on sex selection.

Considerable attention of bioethics and feminist scholars has been given to implications of justice related to sex selective regulations. For instance, as outlined above, according to libertarian/liberal theorists ‘a just society’ will protect the rights and liberties of persons, allowing them to improve their health on their own initiative (Beauchamp, & Childress, 1994). For liberal scholars, like J. Robertson, J. Harris, and R. Dworkin, the use of emerging reproductive technologies is a means to secure persons’ liberty of autonomous decision-making and protect their private life from unjustified intervention. Non-medical sex selection is thus considered a part of their reproductive autonomy (procreative liberty), which is to be protected from undue limitations. This is a central idea that most liberal scholars agree on; however, some of them go even further, stating that the freedom to choose which kind of children to have should also be protected as a fundamental human right.

In contrast, the core idea of relational autonomy, as developed by feminist bioethics, is the role of personal and environmental circumstances on a person’s deliberative capacity. Feminist relational autonomy has made its own valuable contribution to contemporary autonomy theory; yet, just as with liberal theories, there is no common or universal approach to the scope and limitations of the exercise of autonomy. Relational autonomy, according to some scholars, can be classified into groups — procedural (content-neutral), and substantive. Procedural theorists claim that autonomy is achieved when the agent undergoes, or has the capacity to undergo, an internal intellectual process of reflecting on her motivations, beliefs, and values, and subsequently revising

her preferences in light of such reflection (Stoljar, 2015), (Dworkin 1970), (Frankfurt 1988). This process is said to be ‘content-neutral’ because the outcomes of the process of critical reflection will be autonomous — regardless of their content. Self-reflection is the basis for ‘content-neutral’ type of autonomy, and it is ‘the process in which a whole self takes a stance toward particular wants and values she finds herself to have’.

Self-reflected autonomous choices and actions, however, should be both representative of the desires and wants that characterize a person, and exempt from interfering conditions, such as coercion and oppression, etc. In contrast, substantive theorists argue that the constraints on critical reflection required by content-neutral theories are insufficient to distinguish autonomous from non-autonomous reflection. They also claim that autonomy is a value-laden notion. According to ‘strong substantive’ approaches, “the contents of the preferences or values that agents can form or act on autonomously are subject to direct normative constraints” (Sherwin & Stockdale, 2017). To summarize, substantive autonomy represents a greater degree of autonomy, and content-neutral autonomy sets an appropriate minimum threshold for self-determining agency.

Apart from liberal and feminist approaches, which are often radically contradictory, some scholars adopted a more relativist approach towards the regulation of non-medical sex selection. They argue that treating all cases of sex selection similarly is unjust, as doing so “ignores the important socio-cultural contextual differences.” Relativist theorists acknowledge most ‘harmful’ effects of this practice; however, they call for different regulations based on socio-cultural contexts. In particular, in countries with widespread sex selective practices, such as China and India, prohibition of this practice is apparently justified. In contrast, in countries with no manifest gender inequality (gender preference), sex selection can be allowed based on case by case analysis. This type of approach was implemented in Israel to allow sex selection for family balancing purposes. A ‘balanced family’ is generally defined as a family that includes children of two genders without furthering the number or ratio of sexes of the children.⁸

Although the relativist approach to sex selection, including selection for family balancing purposes, is considered to be less morally contentious, it has been attacked by feminist scholars. In chapter 5 I will argue that family balancing, regardless of higher moral acceptability than other sex selection practices, still results in serious ethical and legal issues. Sexism and gender

⁸ The more detailed discussion of family balancing will follow in chapter four.

essentialism, as fundamental objections to sex selection, will also be brought to light. Moreover, I will analyze the feminists' argument that legalization of sex selection supports social injustice. I will address the feminist egalitarian conceptualization of justice, which argues that reproductive decision-making and access to reproductive technologies occurs within a social context with gender-biased discrimination. Prohibition of sex selection will thus lead to reestablishment of social justice with regard to gender equality. Egalitarian feminists argue that confusing sex selection with gender selection 'is not only misleading but may well be harmful to society, and to individuals who do not fit well within the available dichotomous categories (LGBT people).' The chapter will also argue that contrary to the belief that reproductive autonomy has been associated with the freedom to choose the sex of one's child, it can actually be undermined as a result of selection.

Chapters 6 and 7 will analyze current policy regulations on non-medical sex selection, ranging from laissez faire⁹ policies to completely restrictive ones. The chapter will focus on discussing the so-called interjacent regulations of selection for family balancing and other intermediate reasons. In relation to this discussion, the policies of Israel and Victoria (State of Australia) will be analytically scrutinized. The aim of the analysis is to expose the 'right' policy regulation on non-medical sex selection.

Finally, in Chapter 8, I draw conclusions from previous Chapters to answer the research questions.

⁹ Laissez-faire is a term commonly used in the field of economics to refer to minimal government intervention. In our case it is often used to indicate the lack of a comprehensive policy on sex selection in the United States.

Chapter 2: Sex Selection Tools: from Simple Predictions to Use of Assisted Reproductive Technologies

General Overview of Reproductive Technologies and Techniques for Sex Selection

The spontaneous and widespread occurrence of reproductive technologies (mainly prenatal diagnostic machines) has made a critical impact on the sex-at-birth ratio in China, India, and the South Caucasus. In fact, the availability of these technologies is considered to be one of the three reasons for sex selection. If some of these technologies (prenatal diagnostic machines) and drugs (Cytotec/Misoprostol) were not so low-priced and affordable, it could otherwise be difficult to affect such a rapid male skew of sex-at-birth ratio. Though the reasons for prenatal sex selection have deeper roots than merely the availability of selection tools, reproductive technologies have become a focal point of discussions about the issue. In all societies with skewed sex ratios, prenatal sex selection is deeply embedded in cultural norms, which attribute a lower value to girls in comparison to boys (Guilmoto, 2013). According to Guilmoto, the increasing ability of families in Asia to influence the sex composition of their offspring has indeed proven for the last three decades to be one of the main factors behind the rise in sex ratio at birth. Guilmoto also differentiates two types of selection technologies: traditional methods, and differential contraception and high technology methods (Guilmoto, 2009).

Traditional Methods of Sex Selection

In most Asian countries, the use of age-old methods to influence the sex composition of the family is still being reported. These methods range from prenatal ‘folk methods’ based on both the calendar or diet and ritual and religious formulas, to cruder forms of postnatal infanticide or abandonment. Other ‘folk methods’ include astrological, meteorological, or astronomical considerations — and the timing and type of intercourse. These prenatal ‘folk methods’ are

probably of limited reliability, and unlikely to have made any tangible impact on sex composition (Guilmoto, 2012).

The use of these techniques can be observed in all the above-mentioned countries. For instance, following a diet to ensure a specific sex of the child has been a common practice both in Asia and the South Caucasus. While some of the methods are more dominant in one country, they can hardly be observed in others. In particular, infanticide, which is considered to be one of the oldest discriminatory practices, has mostly been tracked in some geographical areas of China and India and has still not completely vanished from these societies (Guilmoto, 2012).

In contrast, in the countries of the South Caucasus, infanticide has not been observed — or at least it has not been documented. Recent surveys carried out in Armenia show that female mortality seems to have never been higher than male mortality, and both child and infant mortality is higher among boys by 20-30% (Guilmoto, 2013). This corresponds to general rates of infant mortality, where male mortality tends to be about 15-25% higher than female mortality immediately after birth (neonatal mortality) (Ibid.). Relatively similar patterns are identified in two other South Caucasus countries (Georgia and Azerbaijan), which, according to a comparative study in 12 countries, had the highest abortion rates in the region — higher than any other country from the former USSR (Hohmann S., 2014). The reason for the uncommonness of infanticide practices in said region is the social unacceptability of this specific method, as it is considered morally condemnable by the society in general. Paradoxically, the most ‘natural’ and frequently used selective method in these countries is sex-selective abortions (including elsewhere morally condemned late-term abortions).

Referring back to the Armenian case, it is noteworthy that here there also has been a parallel rise in the number of divorces — a phenomenon new to Armenian society, which tended to frown on divorce in the past (Guilmoto, 2013). Though there is no statistical evidence on the number of divorces based on the ‘sonless factor’, there are rising trends in some rural areas to divorce women who have given birth to girls. In fact, according to a recent study, almost every fifth respondent in rural areas supports sex-selective abortions.¹⁰

The implementation of son preference by couples can also be reinforced by using different types of contraceptive methods. Thus, they can vary contraceptive use depending on the number

¹⁰ Men and Gender Equality in Armenia, UNFPA Report on Sociological Survey Findings, 2016, Yerevan, Armenia

of sons and daughters already born in the family. Research has shown that in countries with a son preference, the proportion of women using contraception is higher after the birth of sons than after the birth of daughters (Bongaarts, 2013). While contraception alone cannot influence the sex ratio of births in a family or a population, it provides parents some control over the sex composition of their offspring (Ibid).

Other forms of ‘traditional’ methods of selection that Guilmoto mentions are child neglect and abandonment (Guilmoto, 2009). Female abandonment and adoption, according to him, are less common in Asia than elsewhere. However, child neglect has been a common practice in some parts of India — especially the medical neglect of girls. According to India National Family Health Survey (NFHS), boys receive prompt medical attention as compared to girls during an illness and are provided better care by their guardians to cope with its consequences. A study done in India shows that during early childhood, girls suffer health and nutritional discrimination. By age 5, 6 percent more girls than boys show severely stunted growth, and 13 percent more girls than boys are unvaccinated. Moreover, girls with two or more older sisters are the most neglected (ICRW, 2006). Neglect requires no financial or other efforts from the parents and is therefore considered as a ‘low-technology method’ (Guilmoto, 2009).

[Prenatal Diagnostic Machines \(Ultrasonography\)](#)

While there have always been attempts to ensure birth of a child with one or another sex, the real ‘revolution’ with regard to sex selection took place with the introduction of amniocentesis and ultrasonography. It is difficult to state the exact date when the diagnostic machines were introduced throughout Asia, but by the late 1980s, they were already widely disseminated within different medical institutions in China. Likewise, in India the introduction of the new technologies —already well known for their ability to determine the sex of the embryo — became highly sought after (Guilmoto, 2009). In South Korea, the skewed sex-at-birth ratio became obvious much earlier than in other Asian countries, and that is why the government banned the sex identification of the embryo as early as 1987. The ban was further strengthened in 1994 (Boer, 2017). In the case of the South Caucasus, ultrasound machines were introduced in the late 1980s and became widely

available in the 1990s (Duthé, 2012), (Hohmann S., 2014). The transition to a market economy allowed maternity clinics to offer paid services they had not been able to provide before, such as ultrasound testing during pregnancy (Ibid.) The availability of ultrasound diagnostic machines and easy access to abortions soon resulted in an increasing imbalance of the sex-at-birth ratio in all above- mentioned countries. In reality, though ultrasound machines were originally designed for medical diagnostic purposes, they soon gained importance mainly for sex determination purposes. The determination of the fetal sex is possible when genital organs are sufficiently developed, which is around the 12th week of gestation. Accuracy of detection is around 86% at this period and increases in tandem with the gestational age (Hohmann S., 2014). Ultrasonography is certainly the easiest and cheapest way to detect the fetal sex. However, due to the potential harmful outcomes of detection (abortion, and negative affect to the psychological wellbeing of the woman), it is considered to be the most morally and ethically indefensible tool. As a result of fetal sex determination, parents who do not wish to conceive a child of a concrete sex employ a variety of abortion methods. The most common method, developed in the 19th century and still in use today, is dilatation and curettage. This method is still widely used for abortions in post-USSR countries, along with vacuum aspiration, which is a more recent technique. However, because of unrestricted access to medications in said region, drug-based abortions are also available as a superior method of early terminations (<9-11 weeks) — but use of this method generally excludes sex-selective abortions, since fetal sex determination is still not reliable at this early stage in pregnancy. Prior to a few years ago, all these abortion drugs were registered and available at drug-stores without prescription. In addition, they can still be easily ordered online.

Along with ultrasonography, the reproductive market brought forward more developed techniques of fetal sex determination, such as fetal DNA testing. The only similarity with ultrasonography is that both lead to selective abortions; however, fetal DNA tests (otherwise known as non-invasive prenatal tests) have additional ‘advantages,’ which will be explained in more details in the following section.

NIPT: New Tool for Sex Selection?

Current discussions over non-invasive DNA tests mostly include issues about how to improve informed decision-making processes with the help of companies and clinical laboratories. The latter should develop clear and accurate consent forms that clinicians can use to order their services (Allyse, 2013). Some other legal and regulatory issues relate to the potential ‘direct-to-consumer’ nature of non-invasive tests, which can lead to further ethical and legal implications. Unlike existing invasive methods, these tests can be offered remotely, which opens the door to their international provision and the heterogeneity of jurisdictions and law. (Ibid.)

Since most of the non-invasive tests currently offered globally are performed in laboratories based in the US, China, and Europe, only the laboratory accreditation/oversight mechanisms in US, China, and Europe apply (Minear A. M., 2015). In Europe, two new regulations were adopted on 5 April 2017, which concern the use of medical devices (including in vitro diagnostic medical devices). Although genetic testing in most developing countries generally occurs without national regulatory oversight, recent events in China highlight how regulatory issues can affect clinical implementation (Minear A. M., 2015). It should be mentioned that genetic testing in China (particularly non-invasive testing) has grown to be a business large enough to warrant the government’s intervention. Chinese authorities, which appear to be most concerned about DNA-based prenatal testing —partly because of the gender identification possibility that these tests can bring — came up with a ban on the provision of genetic tests to customers by domestic hospitals, and a variety of other medical and health institutions. The official ban was made through a cross-agency announcement posted on the website of the China Food and Drug Administration, in 2014 (Chen, 2014). The statement specifically mentioned prenatal genetic testing, including sequencing-based tests, and added that regulating the use of such products is being done to ‘ensure the public safety of gene sequencing diagnostic products (Report, 2014).

As of March 2014, three different types of NIPT tests (Bambni, NIFTY, Harmony) have been provided in China by Berry Genomics, BGI and Ariosa Diagnostics respectively (Chandrasekharan S., 2014).

Short content analysis of the NIFTY website (niftytest.com) reveals the scope of information provided to future parents with regard to test application. In particular, website visitors can learn that NIFTY is aimed at screening for chromosomal aneuploidies — including trisomies

21, 18, and 13 (Down, Edwards, and Patau syndromes, respectively), and sex chromosome aneuploidies and deletion/ duplication syndromes — from as early as week 10 of gestation. Meanwhile, the website contains explicit information about the possibility to detect the sex of the fetus, considering it to be a test option as well. Among the advantages of the test, the website mentions high accuracy, broad coverage, and price competitiveness.

For ‘expecting parents,’ the website contains detailed information about how to have the test carried out step by step. In particular, ‘expecting parents’ are advised to contact the company to learn about the local provider of the test, in the case that they may lack information about that. Meanwhile, those who know of any local provider and are fully aware of the process and conditions of the test can directly apply for it. After providing a blood sample, they can receive the test results only in 10 days. Since it is still not very clear whether BGI-owned NIFTY provides gender disclosure possibility also to Chinese providers, this is an issue requiring additional research. It should be mentioned that BGI was the first NIPT provider in China to react to the new regulation of Chinese government controlling the implications of genetic tests. In particular, in its statement, BGI said that it ‘fully acknowledged the necessity to regulate [the] genetic testing industry’ and was in the process of registering its tests according to the new regulations (Report, 2014). Subsequently, in 2014, the China Food and Drug Administration approved next-generation sequencing-based products developed by BGI (Reporter, 2014).

Similar to NIFTY tests, Harmony prenatal tests provided by Ariosa Diagnostics, Inc. (local distributor in China is Femina Healthcare) (Chandrasekharan S., 2014) advertise the possibility to detect the fetal sex on both their website (<http://www.ariosadx.com/expecting-parents/>) and the relevant brochure. In particular, detection of fetal sex and/or X and Y chromosome conditions are provided as additional services. Interestingly, the Chinese/English website of Femina Healthcare does not mention the possibility of gender identification when listing available NIPS tests. However, ‘fetal sexing’ is introduced to website visitors as a prenatal diagnostic service starting from 7 weeks of gestation, and in the case of ultrasound diagnosis, starting from 11 weeks (<http://www.feminahealthcentre.com/services/46-product-3>).

Meanwhile, the Chinese website of Berry Genomics (<http://www.berrygenomics.com/bambnitest>) does not provide information on the potential of Bambni test to determine fetal sex. Despite having a more complex website and providing very detailed information on various genetic tests provided by Berry Genomics (including Bambni and

Bambni+), the content of the website is restricted with regard to gender disclosure information. Expecting parents can find useful information about who the tests are made for, what gene sequencing specific technology can detect, and what the success/failure rates are.

Meanwhile in India, according to Madan K. and Breuning M. H. (2014), companies in the United States have been providing DNA kits for home use, which have been freely available and widely used in the north-western states of Punjab and Haryana since 2006. A blood sample from a seventh week pregnant woman could be sent to the United States by post, and the result could be known in 10 days (Madan, 2014).

As of April 2014, two types of non-invasive tests are performed by medical institutions in India: NIFTY by BGI, and NACE by Iviomics (Chandrasekharan S., 2014). A short content analysis of websites of India's largest genetic labs and medical institutions (those providing genetic testing) was also conducted. For this purpose, websites of Sri Ganga Hospital, DNA Labs India, SRL Diagnostics, Srushti Fertility Center, and Bangalore Fetal Medicine Center were observed.

The website of Sri Ganga Hospital includes comprehensive information about the available genetic tests (both screening and diagnostic). It also details the test ordering process and specifies the response dates for each genetic test. One interesting finding is that along with the informed consent form for prenatal diagnostic tests for hospitals (as indicated on the website¹¹), there is a separate form for cases of prenatal sex selection. In particular, future parents should declare that they understand that the sex of the fetus will not be disclosed to them. The breach of this understanding will make them liable to a penalty as prescribed in the Prenatal Diagnostic Techniques Act (see later in the paper).

Similarly, DNA Labs India, which is considered the number one ranked genetic testing laboratory in India, provides detailed information on available non-invasive tests, pricing, and online offers. According to the website, costs of different non-invasive tests vary from 20,000 to 40,000 rupees (approximately 310 to 620 US dollars). DNA Labs India has 3000 collection centers and performs more than 5000 tests per day, including screening for trisomies, sex chromosome aneuploidies, and deletion/duplication syndromes.¹² Being one of the largest providers of non-invasive tests in the country, DNA Labs India does not mention the gender disclosure potential of

¹¹**Notes**

www.sgrh.com/UserFiles/Image/TestOrdering.pdf

¹² <https://dnalabsindia.com>

the tests on its website, and neither do SRL Diagnostics, Srushti Fertility Center, or Bangalore Fetal Medicine Center.

In general, companies marketing NIPT in China and India state that they are compliant with national laws, but additional monitoring is needed to assess whether fetal sex information is ordered/reported and whether current laws adequately protect against the use of NIPT for determining fetal sex (Minear A. M., 2015). It should be reiterated that both China and India have already been implementing relevant legislation prohibiting sex selection for non-medical reasons for two decades.¹³ Apart from the laws on ‘Maternal and Infant Health Care and Population and Family Planning,’ China recently enacted an order on the ‘Provisions on Prohibiting Fetal Sex Identification for Non-medical Needs and Sex-Selective Pregnancy Termination (National Health and Family Planning Commission, 2016).’¹⁴ The document is aimed at creating a national policy to enforce the implementation of the aforementioned laws. Similar to the Chinese laws, Indian laws on Prenatal Diagnostic Techniques (Regulation and Prevention of Misuse) Act¹⁵ prohibit use of prenatal diagnostic techniques and tests (explicitly mentioning diagnostic ultrasound machines) to acquire information about fetal sex. The use of non-invasive tests in India falls under the PCNDT act (Madan, 2014).

It should be mentioned that additional research is necessary to understand how genetic institutions providing NIPS tests in China and India address this ban in practice. This is particularly important as the number of non-invasive tests being carried out in China is rapidly growing. According to Mei, L., etc., (2014), the total number of non-invasive tests carried out by BGI and Berry Genomics was approximately 210,000, starting from 2010. As of 2014, this was the largest number of tested samples worldwide — approximately twice the number in the US, and 33 times that in Europe — and it shows that China has a large market for NIPT (Mei, 2014). However, more robust research about the clinical use of NIPT technologies in China and India is necessary with a particular focus on the gender disclosure issue. More information and guidance is also needed about how prenatal diagnosis of sex chromosome aneuploidies is provided, given their unavoidable relationship to fetal sex (Minear A. M., 2015).

¹³ Law of the People's Republic of China on Maternal and Infant Health Care, 1994

¹⁴ <http://lawinfochina.com/display.aspx?id=21908&lib=law>. The order is available only in Chinese

¹⁵ The Prenatal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, 1994 (PNDT), amended in 2002

Another concern is that currently many Chinese parents either visit Hong Kong or Shenzhen based clinics and hospitals, or send a sample of pregnant woman's blood through agents, thus leading to a growing number of reproductive tourists. The procedure for collection — processing and storage of the blood sample — is, however, thoroughly regulated neither by Chinese nor by Hong Kong legislation. Personal genetic data is considered 'sensitive data' in both legislations.¹⁶ Until recently, China's data privacy framework has consisted of fragmented rules found in various laws, measures, and sector-specific regulations. The comprehensive regulation of data protection provisions in the form of national-level legislation, i.e., Cyber Security Law came into effect on 1 June 2017. However, with the exception of a non-binding National Standard¹⁷, none of the PRC data-related rules and regulations distinguish between 'general' and 'sensitive' (genetic) personal information.

The National Standard prescribes that when collecting sensitive personal information, an individual's express consent may be obtained (opt-in), whereas when collecting general personal information, tacit consent is sufficient. Compliance with the National Standard is voluntary and no penalty is imposed in the event of a breach. Meanwhile, the Hong Kong data protection legislation does not clearly separate the concept of sensitive personal data in the Ordinance. However, non-binding guidance issued by the PCPD¹⁸ (in the context of biometric data) has indicated that as a matter of best practice, higher standards should be applied to more sensitive personal data. To improve genetic data protection in these countries, legally binding legal acts need to be enacted so that uniform and coherent specifically genetic data protection practice can be established. The frameworks of the U.K. and the European Union recently adopted data protection regulations can serve as a good basis for this.^{19 20}

¹⁶ Cybersecurity Law of the People's Republic of China, June 1, 2016

¹⁷ National Standard of Information Security Technology – Guideline for Personal Information Protection within Information System for Public and Commercial Services (promulgated 05 Nov 2012 and effective on 01 February 2013, GB/Z 28828-2012; the 'Guideline')

¹⁸ Non-binding Guidance of the Personal Data (Privacy) Ordinance (Cap. 486) ('Ordinance'), Hong Kong

¹⁹ Regulation (EU) 2016/679 of the EU and the Council, 27 April 2016

²⁰ Directive (EU) 2016/680 of the European Parliament and of the Council, 27 April 2016

Being a relatively new technology, NIPT should be addressed to a greater degree by academic societies, especially in countries like China and India, considering the additional ethical and legal issues it brings forward. Currently, several academic committees from the U.S. and Europe have issued recommendations and guidelines on the use of non-invasive prenatal tests. As mentioned, they mostly emphasize the informed decision-making process, and the ‘direct-to-consumer’ nature of the tests, etc. However, there are several general recommendations that could lead to proper application of non-invasive tests in countries with sex selective issues. In particular, Allyse, et al., (2013) have provided for best ethical practices for commercial test providers in relation to non-invasive prenatal tests. First and foremost, these practices include offering testing only through licensed clinicians — not directly to consumers. Implementing this recommendation could possibly lead to avoiding routinization of the tests.

Since the commercial landscape and the types of these tests are rapidly growing, some experts suggest developing NIPT using other techniques/platforms for which kits can be purchased, and the tests run in house (Minear, 2015). According to the same source, NIPT is effective when providing physicians can have a complete understanding of the test, and its advantages and drawbacks — and most importantly, when tests are accompanied with good pretest and posttest counseling. Recommended pretest counseling may be very useful in revealing the reasons for undertaking non-invasive tests, and can possibly reduce the number of tests aimed at gender disclosure. Additionally, companies should do their best to comply with national and international regulations and laws regarding which results can legally be returned to the patients.

Another recommendation is to design marketing and advertising materials that promote value-based decision-making and avoid advocating for specific actions based on test results. Another recommendation is to filter out fetal sex information from the test result, as long as NIPT is not directed at sex-chromosomal aneuploidies (Dondorp, 2015).

It should be mentioned that some of these recommendations were met by the Chinese government when it announced the necessity to approve genetic tests. This surely could slow down the routinization process of all genetic tests in China. However, marketing of these tests still poses

a problem with regard to specific information provided to consumers. It is said that the best way to counteract improper use of information about fetal sex is to avoid generating it (Dondorp, 2015), which China is currently trying to do. In 2015, the Advertising law was revised to prohibit sexually discriminatory content of advertisements.

Preconception and Preimplantation Methods of Selection

While ultrasound machines can be ‘blamed’ for triggering the most efficient implementation of son preference of couples, more sophisticated technological tools are now used for sex determination purposes. In particular, high reproductive technologies, such as sperm sorting, in vitro fertilization, and cell-free DNA tests, can be used as very efficient selective methods. These procedures vary in their nature, prices, and even in accuracy rates. Despite the fact that in recent years the prices of these procedures have significantly dropped, only cell-free DNA tests can actually have the potential of affecting the sex ratios. This statement can also be supported by the fact that cell-free DNA tests (otherwise known as non-invasive prenatal tests) have one of the highest accuracy rates of sex identification.

In the following sections of the chapter, the main preconception and preimplantation selective tools will be addressed in a more detailed form. It should be noted that this study will be limited to discussing the above-mentioned techniques because of the excessive amount of literature on ultrasound diagnostic machines as main selective tools. However, ultrasound machines will still be relevant for discussions around reproductive autonomy in the following chapters of the thesis.

The following sections of the thesis will be focused on discussing sperm sorting and PGD/IVF for sex selection purposes. The choice of these particular technologies can be justified with several rationales. First, these technologies differ considerably in nature and purpose, but we can identify some common features in the way they evolve. In particular, all three have therapeutic purposes aimed at determining the possible genetic diseases. While sperm sorting and PGD can be used as preconception and preimplantation methods for non-medical sex selection, NIPT is used after conception to identify the sex of the fetus. It follows that unlike the other two, NIPT results

in sex selective abortions.

However, given the fact that NIPT tests can be carried out during the early gestational period,²¹ they can lead to abortion of the fetus within legally acceptable terms. This makes it more difficult to implement sex selective policies in countries where fetal sex disclosure is prohibited by law. Secondly, as outlined above, while genetic technologies are not the key tool of sex selection yet, they do have the potential to become as such. In particular, genetic technologies are not as affordable as ‘the infamous’ ultrasound machines. Nevertheless, considering its greater accuracy and its decreasing costs, genetic testing can successfully replace ultrasound diagnosis. Finally, non-medical sex selection carried out by genetic technologies (sperm sorting and PGD) is considered to be less ethically contentious.

Below, I will provide the results of the analysis of sperm sorting and preimplantation genetic technologies separately, including: the way they function, their accuracy rates, costs, and regulatory frameworks in different countries. The study is not limited to one geographical location — on the contrary, it attempts to present how various regulatory frameworks govern the non-medical sex selection issue from practical and theoretical perspectives. In this respect, the study gave particular attention to use of genetic technologies in three groups of countries:

1. Countries without specific regulations on non-medical sex selection (USA).
2. Countries with general but less-strict regulations on sex selection (Israel, State of Victoria (Australia)). These regulations are considered as ‘interjacent’ policies between stricter regulations and the lack of thereof.
3. Countries with strictly prohibiting regulations on non-medical sex selection (Western European countries, China, India, South Caucasus).

Sperm Sorting

Sperm sorting technology is the least technically complex method of selection and has an advantage of ‘working before conception’ (Davis, 2009). Therefore, there are no ethical concerns

²¹ According to different sources from 7th to 10th weeks of gestation. The implications of the use of NIPT tests will be addressed in more details in the following sections.

about destruction of embryos, let alone their moral status. Sorting human sperm by flow cytometry can increase the likelihood that a child conceived in this way will be of a particular sex. This provides a preconception reproductive option for parents wishing to reduce sex-linked and sex-limited disease risk for their future children or to balance the sex ratio among their children (Karabinus, 2014). The ability to separate X- and Y-bearing sperm cells provides new opportunities for women who are carriers of X-linked disorders. There are over 350 X-linked diseases in humans, including hemophilia, Duchenne muscular dystrophy, and X-linked hydrocephalus (Fugger E.F., 1998). The technology can also be used as a rather efficient tool for preconception sex determination.

According to International Federation of Fertility Societies Surveillance 2016 (IFFS, 2016), sex selection by IUI with sperm sorting was reportedly allowed in 19 countries with statutes, laws, or guidelines (USA, France, Bulgaria, etc.), and reported to be restricted in 32 countries (including China, India, South Korea, and Turkey). In countries like Venezuela, Guatemala, Ecuador, and Saudi Arabia, sperm sorting is allowed with no specific regulation that governs the technique. IUI with sperm sorting was not addressed in statutes of 15 countries (including China, India, and South Korea, as noted above). Sex selection by IUI with sperm sorting was reportedly performed in 11 countries, mostly in larger university hospital centers, large clinics, and smaller clinics. Meanwhile, in 8 countries IUI with the purpose of sex selection was considered an established medical practice, and in 5 countries it was experimental (Ibid.).

While various methods of sperm sorting have been suggested, studied, and commercially offered, flow cytometry is currently the only option with demonstrated efficacy (De Wert G. &, 2010). Flow cytometric sorting (or otherwise called MicroSort²²) is a distinctive technology that allows determination of the sex of the child by sorting spermatozoa that carry X and Y chromosomes. It works by exposing spermatozoa to a fluorescent dye. The spermatozoa are passed through a flow cytometer, which is able to sort the spermatozoa on the basis of cell fluorescence. Spermatozoa with an X chromosome (indicating a girl) contains more DNA than the Y-chromosome; in humans specifically, X-chromosome-bearing sperm have approximately 2.8%

22 GIVF (Genetics & IVF Institute) has applied the registered trademark name MicroSort® (hereafter MicroSort) to the human sperm sorting process; the registered trademarks XSort® and YSort® (hereafter XSort and YSort, respectively) apply to sorting with MicroSort to increase the proportion of X-bearing sperm and Y-bearing sperm, respectively.

more total DNA than Y-bearing sperm (Valerie J. Grant, 2007). In sperm stained with a DNA-specific fluorochrome, the intensity of the fluorescent signal emitted by the stained sperm reveals the difference in DNA content —thereby allowing the differentiation of X- from Y-bearing sperm such that enriched populations of X- or Y-bearing sperm may be generated using flow cytometric sorting (Karabinus, 2014). The efficacy of this sorting process to achieve sperm separation can be assessed by direct FISH, using differentially labelled X and Y chromosome-specific DNA probes and microscopic analysis of sperm aliquots before and after sorting (Schulman J.D., 2005).

MicroSort has been successfully employed both in association with intrauterine insemination (IUI), and in vitro fertilization (IVF) with intracytoplasmic sperm injection (ICSI), to achieve numerous pregnancies, currently totaling over 1,300 live-born babies. Of the babies whose sexes had been documented, 93.5% (944/1010) were of the targeted sex after XSorts, and 85.4% (280/328) were the targeted sex after YSorts (Ibid.). Other studies show that this technology has proven to be 93% effective for selecting girls and 82% effective for selecting boys (Kalfoglou, 2013). Other sources mention that IUI with sperm sorting and insemination of X- or Y-enriched semen has reported success rates of 75% for boys and 85% for girls (IFFS, 2016). Thus, the accuracy of MicroSort sperm sorting procedure has been a subject of heated debates. According to an overview of the Human Fertilisation and Embryology Authority (HFEA)²³, the pros of this technology include that it has a relatively high success rate and that sperm can indeed be used for AI rather than IVF, while its cons include that the technology is not completely reliable, and that there are no conclusive studies yet confirming its safety for use in humans. What is less disputable is the fact that sperm sorting carries considerable risk of having or not having a child of the desired sex.

Though implementation of Microsort technology for selecting girls has been proven rather efficient and accurate, successful sorting depends on the accurate detection of differences in fluorescent signal intensity between the X- and Y-bearing sperm. Strict adherence to standardized conditions of sperm preparation and staining, and instrument setup and operation minimize extrinsic effects on fluorescent signal detection, and thereby also on sort outcome.

On the other hand, characteristics intrinsic to the sperm are more difficult to control. Variations in sperm head size, shape, and surface features (such as number, size and location of

²³ Human Fertilisation and Embryology Authority. Sex selection: options for regulation. London: HFEA; 2003

vacuoles) may affect the intensity of the fluorescent signal in ways similar to how the same characteristics affect light transmission through a lens. Variations in sperm chromatin packaging may affect stain uptake by limiting (or enhancing) stain access to DNA, and can thereby impact sorting accuracy through decreased or increased signal intensity (Karabinus, 2014).

Other factors, such as the quantity and quality of semen (ability to provide necessary quantity of raw semen), are also important to ensure the success of sorting. However, an additional requirement to successful selection is having highly skilled personnel to perform the procedure. Unlike other prenatal or preconception methods of selection, MicroSort implementation requires very high competence to perform the necessary steps in the preparation and sorting process (including liquefaction of raw semen, evaluation and preparation for sorting, staining first sperm aliquot, sorting, evaluating sorted sperm, and preparing sorted sperm for insemination).

Due to the fact that females have two X- chromosomes, it is male children that are mostly affected by sex-linked diseases. This is where sorting for X- chromosome bearing sperm makes it less likely to conceive an affected child. In cases of classic X-linked disorders, sorting for X-bearing sperm would increase the likelihood of conceiving a girl to approximately 90% and decrease the likelihood of conceiving an affected male child from 25% to 2.5% (Karabinus, 2014). Taking into consideration that most sex selection cases happen due to non-medical reasons, and also in favour of boys, it makes sperm sorting a rather uncommon sex selection method. As noted, there are also some concerns about the level of accuracy when sorting for a male child. Another equally important factor is the cost of the procedure.

Preimplantation Genetic Diagnosis and In Vitro Fertilization

Preimplantation genetic diagnosis (PGD) is another high technological tool — perhaps the most sophisticated one — that allows selection of the embryo sex. The use of PGD for the purpose of fetal sex selection brings complex ethical, social, and professional dilemmas to the forefront of public debate throughout the world. While there is a general consensus justifying the use of the procedure for medical reasons, mainly to prevent the transfer of sex-linked genetic diseases,

selection of the child's sex for non-medical reasons (such as religious, financial, emotional, and/or family sex-balance considerations) is highly controversial (Pessach N. G.-G., 2014). PGD is an add-on to in vitro fertilization, which is now used by an increasing number of Americans seeking to have children. Once a woman's or a donor's eggs have been retrieved and fertilized with a man's sperm and the resulting zygotes have completed the cell division that yields eight-celled embryos, a single cell is removed from each embryo and tested for defects, disabilities, or a propensity toward certain diseases. However, lab technicians can also identify sex chromosomes and separate XY embryos from XX ones, thereby screening for sex (Hvistendahl M., 2011).

Similar to sperm sorting procedures, preimplantation genetic diagnosis has a strict regulatory basis in countries with widespread sex selective practices. In particular, the IFFS Surveillance 2016 report indicates that use of PGD for sex selection purposes is prohibited, inter alia, in China and India. However, in both countries general use of PGD is allowed. It should be noted that Chinese authorities have issued strict control over the procedure through enacting federal regulations (IFFS, 2016).

It should be mentioned that IVF with PGT is more precise than other sex selection methods, being successful at producing the desired sex in up to 99% of cases. Some clinics combine sorting with IVF and PGT to enrich sperm toward X or Y, so as to then obtain larger numbers of embryos of the desired sex (IFFS, 2016).

It is well known that PGD is a technique employed during fertility treatment to test an embryo's genes before deciding whether to transfer the embryo to a woman's uterus. The technique is primarily used to detect serious heritable disorders, such as Tay-Sachs or cystic fibrosis, which the parents wish to avoid passing on to their children (Bayefsky M. J., 2016). However, similar to sperm sorting (and other reproductive technological tools), PGD is being misused for reasons other than medical ones. The practices of using PGD (including as a sex selection tool) and relevant regulations vary. We shall therefore analyze how different countries around the world regulate the use of PGD for non-medical reasons. Main comparative analyses of PGD policies will be conducted between countries in Western Europe, Asia, the South Caucasus, the USA, and Israel.

United States

The United States is very unusual in its lack of legal guidance on the acceptable uses of PGD. According to a study, forty-two percent of clinics offering PGD have provided PGD for nonmedical sex selection in the United States. Nearly half of these clinics (47%) are willing to defer to parental preferences and provide PGD for nonmedical sex selection under all circumstances. Forty-one percent will only provide the service for a second or subsequent child. Seven percent will only provide PGD for sex selection if there is another medical reason for undergoing PGD. Nonmedical sex selection was performed in 9% of the PGD cycles IVF–PGD clinics reported having provided in 2005 in the U.S.A. (Baruch S., 2008). For the most part, parents in the USA going through PGD or sperm sorting dread having a boy. Girls are the goal for 80 percent of HRC Fertility’s patients, and for 75 percent of the sperm sorting patients that the Genetics and IVF Institute takes on (Hvistendahl M., 2011).

It should be noted that in the United States, the legality of artificial reproductive technologies for sex selection for nonmedical purposes is currently a matter of state law. Due to the fact that at present, no state in the USA prohibits the practice legally, practitioners who currently offer or decline to offer sex selection for nonmedical purposes do so against a varied ethical and legal backdrop. They consider arguments related to the exercise of reproductive liberty or autonomy, the child’s interests, gender bias, sex stereotyping, and the non-acceptance of offspring, etc. Taking into consideration the aforementioned considerations, the ASRM Ethics Committee has not reached a consensus on whether it is ethical for providers to offer ART for sex selection for nonmedical purposes (ECASRM, 2015).

Unlike the situation in Canada, and most Western European and Asian countries, the regulatory lacuna regarding PGD in the USA can be explained by four interrelated considerations (Bayefsky M., 2015). According to Bayefsky, the regulatory gap in the USA is a result of the lack of a single-payer health care system. In many countries with advanced healthcare systems, the government plays a major role in funding (providing) health care services. However, since in the United States funding for *health care services comes from private insurance companies*, the government has not been required to take a stance on the appropriate uses of PGD. Another reason is that *medical professionals in the United States tend to resist greater government oversight*. Government oversight, according to healthcare practitioners, must come along with government

funding. Since abortion is a more controversial issue in the United States, and the process of PGD/IVF often includes creating and discarding the ‘unnecessary’ embryos, some believe that it is unlikely that Congress could successfully pass a law on the appropriate use of PGD. The final argument that Bayefskiy mentions is that the USA is more culturally diverse than most Western and Northern European countries, and this may amplify the inherent challenge of developing regulations that reflect and respect the views of the electorate (Ibid.).

Israel

In Israel, since 2005 non-medical sex selection by PGD has been regulated in a different manner than in other countries. The regulation of PGD in Israel is not based on legislation; instead, it is mandated by a directive from the Ministry of Health. The directive is guided by the premise that sex selection for non-medical reasons is basically prohibited, but that exceptions can be made in ‘*highly unusual, irregular and rare cases,*’ and after written permission is granted by the National Committee for Sex Selection by PGD for Non-Medical Reasons (heretofore referred to as the ‘Committee’). This Committee is appointed by the Director General of the Ministry of Health and comprises at least seven members including: an expert in medical/bioethics, a clinical psychologist, a social worker, a legal expert, a physician with expertise in genetics, a physician with expertise in obstetrics and gynecology who works in the field of fertility, an ethicist, and a clergyman. The Committee can approve the selection procedure only if all of the conditions set by the law are met (Pessach N. G.-G., 2014). A full discussion of these conditions and the Israeli legal perspective will follow in Chapter 7.

Western Europe

Meanwhile, PGD is strictly and thoroughly regulated by almost all European Union countries with a variety of regulation methods, ranging from the most prohibitive to very liberal policies. PGD for sex selection for X-linked genetic diseases is performed in most of the countries offering PGD/IVF services.

In her recent study, Bayefsky selected Italy, Switzerland, France, and the UK as case studies

in order to demonstrate the variation in PGD policy in Europe, as well as the range and types of forces at play in the development of regulations on the acceptable use of PGD (Bayefsky M. J., 2016). In particular, in *Italy* the most conservative law on assisted reproductive technologies²⁴ was adopted in 2004 (Biondi, 2013). The law limited the number of embryos created during IVF to a maximum of three and required that all viable embryos be transferred into the patient's uterus so no embryos would be stored or destroyed. The use of ART was also restricted only to those with diagnosed infertility. However, later in 2012 these rules were declared unconstitutional by the Italian Constitutional Court, and PGD was once again performed in Italy for purposes aimed at protecting the health and development of the embryo itself – in other words, to prevent the transmission of a hereditary disease. At the same time social uses of PGD, such as sex selection, are prohibited by the law.

In Switzerland, PGD was prohibited until 2015, and much like the Italian law, the pre-existing Swiss law mandated that only three embryos could be created during IVF, and all needed to be transferred. After Switzerland's assisted reproductive technology law was modified, the use of PGD and PGS was permitted (Bayefsky M. J., 2016). However, the set of conditions for which PGD can be used is still not specified as of yet. Meanwhile, sex selection is strictly prohibited.

Similarly, in Germany the use of PGD was prohibited by the Embryo Protection Act (EPA). The act was passed in 1990 following the introduction of IVF, and it aimed to protect the embryos which were created but not transferred into the uterus (Bock von Wülfingen, 2016). Similar to Italian and Swiss regulations, the German Embryo Protection Act posed many regulatory gaps; however, the status of the embryo and issues related to it have always been more sensitive in Germany. The concept of 'embryo-as-person' has undergone major transformations starting from 2005 until 2011. According to (Bock von Wülfingen, 2016), the partial acceptance of PGD in Germany is due to this transformation.

As a result, the identity of the embryo has been reconstructed: it transitioned from concepts according to which the embryo intrinsically comes into being endowed with pre-given full human dignity, to theories relativizing the embryo's rights according to specific factors (Bock von Wülfingen, 2016). When it comes to sex selection, a study among 114 specialists in reproductive medicine in Germany (72 males and 42 females) showed that the majority of respondents (78.9%)

²⁴ The new Italian law on assisted reproduction technology (Law 40/2004)

were in favour of a regulation that limits the use of preimplantation sex selection only for medical reasons, such as X-linked diseases. Only a minority of 18.4% approve of the use of sex selection for non-medical reasons (Wilhelm, 2013). However, some of the participants voted in favour of allowing sex selection for family balancing reasons after in-depth evaluation and permission from a special committee (the ethics commission decides every case separately).

Similarly, the *Austrian* Reproductive medicine law was reformed in 2015, allowing broader use of assisted reproductive technologies (including use of PGD). On one hand, the reform extended the scope of ART users; on the other hand, it allowed more procedures to be carried out. However, up to now Austrian legislation in the field of ARTs remains one of the most restrictive ones in the European Union, in that it bans embryo donation, and the access of single women and gay couples to the ART procedure (with the exception of lesbian couples) (Griessler E., 2016).

France and the United Kingdom, in contrast, have a more detailed regulatory framework for the use of PGD. In France, the law requires PGD to be performed only by a specially certified fertility specialist, and it can only be used to select against a serious, incurable disease. While the law itself does not provide a list of serious incurable diseases, the Agency of Biomedicine²⁵ has the power to extend the uses of PGD laid out in France's bioethics laws on a case-by-case basis. Similarly, in the United Kingdom the Human Fertilisation and Embryology Authority (HFEA) regulates what assisted reproductive technology may be offered.²⁶ Non-medical use of PGD in the UK is prohibited. Moreover, the HFEA maintains a detailed list of disorders for which PGD is permitted.²⁷ License committees determine whether new conditions qualify as appropriate medical uses of PGD, after reviewing an application submitted by a fertility clinic on behalf of a patient. Before it is considered by a License Committee, the application is sent to clinical geneticists and is posted on the HFEA website for public comment. Licenses may be given when there is a significant risk that an embryo will have:

- a) a serious physical or mental disability;
- b) a serious illness; or

²⁵ Agence de la Biomédecine, created by the 2004 Loi relative à la bioéthique

²⁶ The HFEA is a statutory body which received its authority from the Human Fertilisation and Embryology Acts of 1990 and 2008

²⁷ PGD Conditions Licensed by the HFEA, 2015

- c) any other serious medical condition.

Asia

With a long and complicated history of family planning, China and India have somehow managed to create one of the largest markets of assisted reproductive technologies. Decades long struggle with the one-child policy in China, and widespread sex selective practices in both countries have complicated the regulation of assisted reproductive technologies. As Wahlberg, (2016) mentions, in the space of three decades, IVF in China has gone from experimental to routinized on an astounding scale, and it has traversed the continuum from experimental to standard care within the country. Currently, both China and India provide high-quality and somewhat affordable services through numerous fertility clinics and hospitals. However, due to relatively new regulations, clinics are not allowed to carry out preconception sex selection (in cases of sperm sorting or PGD/IVF) or to disclose the fetal sex. The enforcement of the law is what remains somewhat inefficient, due to many illegal clinics and a rising number of reproductive tourists.

To conclude, each of these currently available genetic methods of sex selection still has a very high cost for most of the parents, with the exception of cases when sex selection is a ‘side benefit’ for parents who are undergoing infertility treatment with the help of PGD/IVF. These parents can possibly profit from the treatment and have a specific embryo (male or female) selected for a transfer into the uterus. However, other parents still have to go through complicated and costly procedures to have their desired sex of children. What if future research (technological developments) could allow everyone to choose a girl or a boy with less investment of money and effort? If we can imagine a situation when parents are able to choose the sex of their children as easily as their grocery list for the week, can it still be ethically contentious? The thesis will address these hypothetical questions in the following chapters of the work.

Chapter 3: Libertarian Account on Reproductive Autonomy: Key Arguments in Favour of Sex Selection.

Introduction: Therapy, Enhancement and Sex Selection

This chapter aims to investigate the libertarian perspective on the regulation of genetic enhancement and sex selection, which is one of the most prominent theories of reproductive autonomy in relation to non-medical sex selection. Next, a critical analysis of the main arguments supporting expansion of reproductive autonomy will follow. Prior to that, I will provide a summary of basic concepts of ‘therapy’ and ‘enhancement,’ and the problematization of distinction between these two in bioethical literature.

The significance of the therapy/enhancement distinction is perhaps one of the most disputed issues in contemporary bioethics. Numerous moral theories that have emerged during the past few decades, most of which have contradictory perspectives on the importance of the distinction between therapy and enhancement in human genetics. Some of these theories reject the assumption that enhancements are inherently unethical (Agar N., 2004; Harris J., 2007; Savulescu J., 2009), stating that certain types of genetic enhancements are not very different from common medical or environmental interventions, such as vaccination, providing children with good education, or physical training, etc. On the other hand, several authors attempt to justify the existing distinction by defining concepts of ‘therapy’, ‘health,’ and ‘illness’ in more detail (Resnik, 2000).

So, what is ‘therapy’ and what is ‘enhancement’? I do not intend to come forward with a new definition of therapy or enhancement; rather, I will refer to the more well-recognized accounts in existing literature.

‘Enhancements’ are interventions used to improve functioning that is considered to be within the normal range, as opposed to ‘treatments,’ which are aimed at improving biological functioning that is considered as outside the normal range by current medical knowledge (Lev, Wilfond, & McBride, 2013). Others note that enhancement attempts to improve traits that are considered normal, while treatment attempts to return a condition of illness, defect or injury to the

normal range (Vizcarrondo, 2014). Both definitions are largely based on the moral account of W. French Andersson, who mentioned four potential ways of applying genetic engineering to human beings in his original article (Anderson, 1985).

The first application of genetic engineering that Anderson mentioned was somatic cell gene therapy. This therapy only results in correction of genetic defects in somatic cells of patients. As opposed to somatic genetic therapy, germline therapy attempts to modify germ cells that would also affect patients' offspring. The third type of application, according to Anderson, is enhancement genetic engineering that is expressed by 'enhancing' a certain characteristic through insertion of a gene, such as adding a growth hormone gene in a normal child. Finally, he mentions eugenic genetic engineering, which, as opposed to enhancement, involves modifying or improving more complex human traits, such as personality, intelligence, and physical conditions, etc. (Anderson, 1985). Clinical trials conducted till now have been limited to somatic cell therapy, which has been understandably branded as the least problematic application of genetic engineering.

In this realm Anderson viewed somatic cell therapy as a process that lacked serious ethical concerns. On the other hand, he acknowledged that germline therapy necessitated more careful discussion. For this reason, he suggested satisfying 3 conditions before carrying out germline therapy: verifying the existence of considerable experience associated with safety and effectiveness of previous somatic cell therapies, the existence of 'adequate' animal studies establishing safety and reliability of germline studies, and the public awareness/approval of the procedure. While he considered enhancement as ethically more controversial, he argued that it can be allowed to be conducted only on the grounds of preventative medicine, such as preventing heart attacks or strokes in normal individuals.

Though Anderson's classification has had a critical impact on future ethical discussions of the therapy/enhancement distinction, it can be criticized in terms of its drawing strict lines between all four applications. Both clinical practice and theoretical discussions have shown that application of genetic engineering cannot be either fully therapeutic (therefore, ethical) or non-therapeutic, as it might be instinctively derived from Anderson's theory. Thus, his statement that the line delineating treatment between therapy and enhancement should not be crossed is at minimum problematic.

According to Resnik, in order to draw this line, it is essential to meet at least two assumptions: “clear and uncontroversial account of both health and disease” and belief that curing diseases is the only morally legitimate goal of medicine.²⁸ Both of these assumptions are questionable (Bostrom & Roache, 2007).

The first assumption requires a well-defined concept of what constitutes ‘a normal healthy status.’ Is slightly lower than average cognitive capacity considered a pathology? Does it qualify as enhancement or therapy if individuals with this type of ‘pathology’ have genetic intervention?

Similar questions are raised when dealing with cases like the correction of poor vision through a Lasik surgery, or radical gains in life expectancy due to technological development. These examples demonstrate that achievements of modern medicine are not restricted to curing diseases and injuries, but also include more ‘contemporary’ medical fields, such as preventative medicine, palliative care, fertility treatments, dental care, and plastic surgery, etc. (Bostrom & Roache, 2007). If standard medical practices, such as surgeries and treatments for infection, are the goal of medicine and are considered necessary therapeutic interventions, then where do the aforementioned practices belong to? There is no consensus with regard to this issue. Proponents of genetic enhancements do not see a significant moral line between therapy and enhancement. In fact, they argue that there are no compelling reasons why we should not enhance our genes and/or produce ‘the best possible children.’

Agar argues that the scope of therapy should only be restricted to prevention or treatment of disease and may allow exceptions to “a principle requiring the maintenance of normal functioning.” This is because expansion of the scope of therapy beyond treatment and prevention of diseases will inevitably lead parents to find different ways of enhancing their children. In these circumstances, he suggests that parents should enjoy the freedom to enhance their children, which he calls ‘a liberal policy of enhancement (liberal eugenics) as opposed to Nazi eugenics. Whereas Nazi eugenics sought to reach a single eugenic template through its enhancement projects, the liberal policy will rather promote diversity by allowing different choices of enhancement (Agar N., 2004). He argues that human genetic enhancement, or at least some of the gene editing

²⁸ Resnik argues that therapy-enhancement distinction encompasses both somatic and germline interventions. He offers his own, more detailed classification of genetic interventions. He distinguishes between somatic genetic therapy and enhancement, germline genetic therapy and enhancement.

procedures, are considered to be morally wrong because they are incorrectly associated with Nazi eugenics.

The term eugenics was first coined and introduced by Francis Galton as “the science of improving stock, which is by no means confined to questions of judicious mating, but which, especially in the case of man, takes cognizance of all influences that tend in however remote a degree to give to the more suitable races or strains of blood a better chance of prevailing speedily over the less suitable.”²⁹ Agar argues that, despite controversially racist separation of more suitable races from less suitable ones, eugenics is not entirely morally unacceptable. In an attempt to support his argument, he suggests distinguishing between ‘morally wrong’ and ‘morally problematic’ interventions (Agar N., 2019). Implementation of Nazi eugenic plans, such as the murder of 70,000 disabled people or attempts to produce only white children with very specific characteristics, are undoubtedly morally wrong actions. Other interventions, such as the prevention of serious diseases in individuals, are most probably morally good ones.

However, there are interventions which are not either entirely ‘good’ or entirely ‘bad’. For instance, the use of preimplantation genetic diagnosis can serve both purposes, and thus are morally problematic. Detection of genetic diseases and chromosomal anomalies by PGD can be viewed as being similar to an improvement of the human race since it leads to elimination of sick embryos or fetuses, and keeps only those which are healthy (Seif, 2003). On the other hand, it can serve as a tool for selecting a child based only on its sex.

The essential difference between the two practices is that morally wrong practices should be banned, while problematic ones only ‘call for solutions.’ For Agar, eugenics (as well as PGD) is an example of a morally problematic practice owing to its historical associations to morally wrong practices. He insists that while the historical past of eugenics should be acknowledged, it should not be overstated, and nor should the distinction between therapy and diseases.

In this section of the work, I have demonstrated the problematic nature of the therapy/enhancement distinction; a distinction that plays an essential role in justifying or forbidding a genetic intervention. It has been discussed that bioethicists have not yet come forward with a unanimous definition or scope of ‘therapy’ or ‘disease’, and it is not realistic to expect such a definition in the future. Among the majority of medical (genetic) interventions carried out daily,

²⁹ The term ‘eugenics’ can be literally translated into ‘well-born or good-born’ from Greek *eu* (*good, well*) and *genēs* (*born*).

it is rather impossible to set up clear boundaries between therapeutic and non-therapeutic procedures. As Resnik argues, the ‘distinction of therapy from enhancement is defined by moral zones that do not have any sharp boundaries.’ Nevertheless, this does not mean that we should not protect these boundaries and regulate at least those that clearly fall out of the scope of therapeutic interventions (Resnik, 2000).

One such example of regulation is the case of non-medical sex selection. The moral boundaries between justifiable selection are set based on whether the procedure has therapeutic necessity or not. As discussed in Chapter 1, this distinction is problematic as well. The existing policy regulations seek to limit the use of reproductive technologies for the cases of severe X-linked diseases; however, there is no clear and unanimous definition of severity. Many of X-linked diseases, as argued, have different levels of severity, and the perceptions of symptoms that are associated with those diseases are different for most individuals. This makes selection of children based on perceived ‘disorders’ morally challenging. For instance, disregarding a fetus with a high probability of colour-blindness can be a morally problematic issue for many, but its parents may perceive colour-blindness as a serious disability.

Similar to the therapy/enhancement distinction, the case of therapeutic/non-therapeutic sex selection is also not apparently guided by sharp moral boundaries. This is not the only resemblance the two cases have. In bioethics, discussions on ethical and moral aspects of non-medical sex selection and genetic enhancements generally evolve in parallel. In particular, most of the generic arguments against sex selection can be related to genetic enhancements as well. These arguments include claims that selection of any traits is a slippery slope on the way to eugenics, it promotes commodification of children, and it affects their ‘right to an open future’ or even welfare (Wilkinson, 2010). Some other arguments against sex selection, such as sexism, are atypical for genetic enhancement debates. Another issue is that in the case of debates about non-medical sex selection, unlike in debates about enhancement, the question of whether a certain condition is considered ‘normal’ does not play a central role.

A more detailed account on the comparison of non-medical sex selection and genetic enhancement in general is drawn by Robert Sparrow, who argues that “giving up the idea that the answer to the question as to whether a condition is ‘normal’ should play a crucial role in assessing the ethics of genetic interventions has unrecognized and strongly counterintuitive implications

when it comes to selecting what kind of children should be brought into the world (Sparrow R. , 2010, pg.115).”

Overview of main theories on Reproductive Autonomy

In contemporary reproductive medicine and ethics, paramount attention is paid to autonomy. This attention is particularly focused on the tension between reproductive rights, duties, conflict between autonomy and beneficence, choice, and access to healthcare. In debates about the use of reproductive technologies different concepts have been used by bioethicists, such as concepts of ‘reproductive choice,’ ‘reproductive rights,’ ‘procreative liberty,’ ‘reproductive justice,’ and ‘no-harm.’ As a result of recent advances in preconception and preimplantation technologies, some of these concepts have had to be viewed in the light of more complex ethical considerations. A great example of an ethically complex issue is non-medical sex selection.

The practice of non-medical sex selection has generated an important debate that mainly focuses on its moral permissibility, and the conditions under which it would be acceptable to choose the sex of the child (McGowan & Sharp, 2013). The discussion on bioethical (normative) framework in this field emerged since the 1990s, when feminist bioethics appeared as a distinctive academic concentration offering sustained critique of mainstream bioethics, such as liberal bioethics.

Liberal bioethics, which has an utilitarian principle of maximizing happiness as its basis, has largely affected health policies and medical ethics. As a result, health policies started reflecting the utilitarian ideal of “the greatest happiness for the greatest number.” In these circumstances, while health and well-being are promoted, illness and disabilities are largely viewed as something to be eliminated or reduced. Not only has the utilitarian principle affected how people perceive disabilities, but it also attempts to justify genetic enhancements that aim to promote the pleasure and well-being of current and future generations. In this realm, non-medical selection has become an inseparable part of discussions on genetic enhancements.

The utilitarian approach has been largely criticized based on its focus on the consequences of actions, and ignorance of the motives or the means behind them. Moreover, “the utilitarian goal of maximizing well-being can sometimes necessitate the agent acting immorally... [and] overall welfare might call for the agent to do something we normally consider quite wrong (Shaw, 2006).”

In a relevant example, parents decide to conceive a male child, because they are sure they will love a male child more than a female child. They argue that by conceiving a child of their desired sex, they promote his future wellbeing. Regardless of their intentions, other people may consider their actions as morally questionable.

Some of the critiques of liberal theories emerged with the start of the women's health movement. Feminism has attempted to correct the lack of political dimension in conventional and mainstream bioethics, by focusing on power and justice issues in the new biotechnologies, including reproductive technologies.

Since the early years of the second wave of feminism (1968), feminist activists directed attention to areas of health care where women's interests were most obvious, and yet also were being severely neglected: access to birth control and abortion, pregnancy, and the control of representations of female sexuality. Engaging with these activist concerns, feminists drew on the late twentieth century scholarship in feminist moral and social theory, which utilizes sex, gender, and other marginalizing characteristics as categories of analysis that are bound up with power relations across public and private life. Bioethicists and feminist scholars have focused on the implications of justice of 'techno-scientific' family building. While technological innovations in assisted reproduction are pushing the boundaries of science and technology, feminist scholars argue that greater attention needs to be paid to the numerous ways in which our society continues to follow old patterns of oppression and discrimination.

In general, feminists attempt to explain autonomy in such a way as to do justice to the central role that our cultural and economic situations, social relationships, and interpersonal ties play in value formation and the development of agential capacities (Wardrope, 2015). Feminist relational autonomy theory more specifically describes the importance of oppression as a necessary component of autonomy — a critically important part of discussions on sex selection, partly because feminist theories largely reflect on how different factors (cultural, economic, so on.) affect the decision-making of women.

There are currently several types of moral objections to preconception and preimplantation sex selection that argue in favour of or against the practice of medically assisted technologies for non-therapeutic use. Some arguments include consequentialist objections, which refer to presumed adverse consequences of the issue, such as increased gender discrimination, skewed sex-at-birth ratio, and so on (De Wert G. D., 2010). Others are non-consequentialist or deontological in their

nature, meaning that they regard non-medical sex selection in and of itself as a morally problematic issue, prior to or apart from any consequences such a choice may have.

Non-consequentialist arguments include objections that sex selection is not *natural*, non-medical sex selection has nothing to do with medicine, sex selection for non-medical reasons is inherently *sexist*, and finally that it leads to an *invasion of human dignity*. Consequentialist arguments instead focus on the idea that sex selection for non-medical purposes will lead to a distortion of sex ratio, it will have negative consequences for the psychological development of children, and it will affect the position of women in society. The final and perhaps most discussed non-deontological argument presumes that sex selection is a slippery slope towards wider selective reproduction.

The focus of the current chapter is the discussion of the libertarian account on selective reproduction, which includes both genetic enhancement and NMSS. I aim to introduce the position of the most influential libertarian authors, and to critically analyze their claim that selective reproduction should be protected by law as a liberty right included in one's procreative autonomy.

Libertarian Account on Reproductive Autonomy

The commonly accepted basis for liberal bioethicists' definition of the concept of 'reproductive autonomy' or 'procreative liberty'³⁰ is inspired by John Stuart Mill. He notes: "the only freedom which deserves the name, is that of pursuing our own good in our own way." In his famous essay "On Liberty," Mill argues that individuals maintain sovereignty over their own body and mind – and "(that) the only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others." The principle of harm, developed by Mill, has become the foundation of arguments in favour of unrestricted use of reproductive technologies. These arguments have been further developed by several liberal scholars like J. Harris, J. Robertson, R. Dworkin, and many others. Following the ideology of J.S. Mill, they argue that the use of reproductive (genetic) technologies should not be restricted, unless there is harm caused to other people or society.

³⁰ In bioethics these two terms are used interchangeably.

The libertarian accounts of autonomy have several common characteristics. First, most libertarians claim that individual autonomy is mostly independent from social factors, such as relationships to other people. Secondly, autonomy is perceived as a right enacted without any state interference, and is only enhanced when an increased number of options (choices) are given to individuals. Thus, libertarians mostly attempt to claim that individual autonomy implies no positive rights enactment. Finally, libertarians view technological development as a tool to promote autonomy.

The libertarian view of reproductive autonomy is a dominant view in regulatory frameworks and theories related to assisted reproductive technologies, and as such, it is very relevant to our discussion of non-medical sex selection. However, despite this dominance, the libertarian perspective has significant problematic aspects. These aspects will be discussed in greater depth by presenting the summary of arguments of the three most prominent libertarian authors: John Robertson, John Harris, and Julian Savulescu.

Perhaps one of the most famous liberal accounts of reproductive autonomy belongs to John Robertson. In 1983, he began using the new concept of ‘procreative liberty’ to argue for a set of freedoms related to assisted reproductive technologies. The concept was developed during politically sensitive times and initially reflected earlier political struggles for women’s suffrage and other rights. This political movement was aimed at fighting against coerced reproduction, and at the same time, against the forced sterilization of women. Since women often lacked the legal right to control their bodies — that is, to autonomously decide if they wanted to engage in sexual intercourse, and to have or not to have children — discussions on their reproductive autonomy initially focused on securing negative rights. As a result of ongoing political movements to legalize contraceptives and abortions, the U.S. Supreme Court held two fundamental decisions (*Griswold v. Connecticut*, 1965), which would later serve as a minimum for securing negative rights of reproductive autonomy. The next step was the recognition of reproduction as a fundamental human right with regard to forced sterilization in (*Skinner v. State of Oklahoma*, 1942). As a result of these fundamental decisions, during two decades the *concept of personal liberty*, guaranteed by the U.S Constitution’s due process clause, was extended to include both the right to reproduce and the right to control reproduction.

In this realm Robertson’s initial concept mainly referred to two types of freedoms: the *freedom to procreate* and the *freedom not to procreate*. He argues that an essential element of this

liberty is ‘the right to become pregnant and to parent...’ which involves ‘reproduction without sex’. This right can be implemented through the use of assisted reproductive technologies. For Robertson, the expansion of reproductive choices is a part of this liberty and involves the new ways of reproduction, including through the use of donor sperm, surrogate mothers, or in vitro fertilizations, etc. He notes that assisted reproductive technologies serve the same good as sexual reproduction, and they have to be accessible to a similarly large spectrum of people. In addition, according to Robertson, the negative rights implied by procreative liberty also involved the right to reject reproduction.

Robertson assumes that if there is a presumptive right to procreate because of the great importance to individuals of having a biological child, and if a person is assured that she would realize the benefits of child rearing only with a child of particular characteristics, then she should be free to select the offspring. Selecting the offspring with the desired characteristics will make the procreation meaningful. Thus, he argues that “procreative liberty should enjoy presumptive primacy when conflicts about its exercise arise because control over whether one reproduces or not is central to personal identity, to dignity, and to the meaning of one’s life...” (Robertson, 1996).

For Robertson, the perceived dangers of ‘quality control’ are not sufficient to deprive people of their discretion in planned reproduction. This is clearer in the case of their choice not to procreate (negative form of choice), and in the case of prenatal interventions to cure disease or a defect at the fetal or embryo level. Notwithstanding, he acknowledges that some positive interventions, such as genetic enhancements (cloning) cause more complex issues given the fact that “they go beyond the birth of a normal, healthy child for rearing.” As for the potential harm to the offspring, Robertson notes that the existence of a presumptive right to control offspring traits should not be confused with whether the effects of that right are so harmful that such a right can be justly limited. In order to determine if a certain action or choice is included in one’s procreative liberty, Robertson suggests assessing first whether the central concerns of procreative liberty are involved, and then whether the use of reproductive technologies harms the interests of others.

While liberty in the course of procreation and bodily integrity are important rights for Robertson, he acknowledges that those can be limited based on the harm principle. He argues that even if a fetus is a part of a woman’s body, she has the moral responsibility to avoid prenatal actions that have a high risk of harming the child. These harmful activities are drug abuse, alcohol consumption, and some workplace hazards. At the same time, he mentions that some actions of a

woman can be harmful for the fetus and still be acceptable: i.e., chemotherapy for her own life-threatening cancer, etc.

In general Robertson's arguments can be informally divided into 2 groups, based on his distinction between what he calls 'normal' reproduction, and other sorts of reproduction such as: selective reproduction, genetic enhancements, and cloning. According to him, "non-therapeutic genetic enhancements, reproductive cloning and the intentional diminishment of offspring would not fall within procreative liberty since they deviate too far from the experiences that make reproduction a valued experience and are not part of 'normal' reproduction" (Robertson, 1996). He reasons that if it is an ethical requirement to surrender to the natural process of reproduction, then any attempt to either *avoid* reproduction or *treat infertility* would also be illegitimate, as this would constitute interference with nature as well. Surely, here Robertson's analogy cannot withstand criticism, as he fails to acknowledge that infertility treatment has an important therapeutic goal rather than a mere preference for certain genetic characteristics.

When it comes to selective reproduction, for reasons such as 'disease susceptibility traits' or gender, Robertson takes a more cautious stance. He assumes that with the development of safe and effective preimplantation diagnostic techniques, no strong ethical arguments remain against selection of the embryo traits through biopsy. He finds embryo selection more acceptable than abortion of the fetus given the fact "that preimplantation embryos lack defined individuality and differentiated organs." He further argues that disregard of a fetus based on genetic traits, such as disease susceptibility and gender, should not lead to criticism, and couples with already identified genetic diseases should be given the option of embryo selection since unwanted embryos can be disregarded or destroyed anyway. (Robertson, 1996). Another reason Robertson 'tolerates' fetal sex selection is that, given the cost of preimplantation genetic diagnosis, this option can hardly become widely available for many people, and thus cannot possibly alter societal sex ratios.

This position can be criticized based on at least two grounds. First, it is not clear from Robertson's arguments whether he supports a deliberate selection of certain characteristics, or whether he assumes those should only be allowed when there is a choice between multiple available embryos. Moreover, his arguments only apply to individuals who undergo PGD and IVF and thereby can be permitted to select the embryo with desired characteristics.

As for selection cases carried out through other means, such as sperm sorting or abortion, Robertson argues that the problem here is not the selection per se, but rather the 'particular means

or circumstances of selection.’ Here he acknowledges that there might be strong arguments against the use of screening technologies since some of the techniques used for the selection might cause actual harm to the fetus or embryo. He claims that if the harm is *sufficient*, the restriction of the use of those techniques can be justified. In order to show that certain reproductive technologies are included in the right of reproductive freedom, Robertson suggests applying a proximity test, and maintaining a high standard for determining when harmful consequences can lead to justified restriction of reproductive choices.

Second, Robertson assumes that given the high costs of PGD, selection of traits will largely remain a ‘a privilege’ for the rich and will not cause risks like societal sex imbalance. Speculating that the practice of PGD will remain unaffordable to most, he seems to be referring to the selection of ‘disease susceptibility’ traits rather than sex selection, which has in fact been demonstrated to be effectively carried out through other more affordable and less invasive techniques (e.g. sperm sorting).

Robertson thus fails to address the fundamental ethical issues behind sex selection. Besides, his tolerance towards the use of PGD for non-medical reasons by the rich might arguably contribute to creating even deeper inequality in society, and this has led many scholars to criticize his position on the basis of social justice concerns. Robertson and other libertarians argue not only that individuals have a fundamental right to reproduce without a state interference, but that this reproduction also should be enabled through the use of new reproductive technologies.

Such claims are made by another famous libertarian, John Harris, who argues that freedom of citizens should not be interfered with unless “good and sufficient justification can be produced for so doing.” He claims:

“If parents want children of their own, they should have every assistance with childbearing which is consistent with the like assistance for all the citizens” (Harris J., 2007).

Harris’s presumption of democracy implies that citizens should be free to make their own choices based on their own values, regardless of the fact that those values or choices are not acceptable for the majority. The interference with our freedom can be justified only in cases of serious, real and present danger to other citizens or to society. Similarly to Robertson, he accepts

a high standard for intervention, stating that anything less than a high standard will lead to ‘death of liberty’. Thus, those who would “exercise reproductive liberty do not have to show what good it would do; rather, those who would curtail freedom have to show not simply that it is unpopular, or undesirable, or undesired, but that it is seriously harmful to others or to society and that these harms are real and present, not future and speculative” (Harris J., 2007). Accordingly, the burden of proof is placed on the side that claims the existence of a very specific harm. Here, Harris refers to Feinberg’s interpretation of liberty, which states that “liberty should be the norm, while coercion always needs some justification” (Feinberg J., 1987).

Like Robertson, by giving ‘fundamental right’ characteristics to reproductive liberty, Harris limits the understanding of liberty to only a negative right. He claims that the right to reproduce freely should be protected from an unnecessary intervention of the state (professional organizations, and regulatory bodies). Moreover, for Harris, reproductive liberty is more than an exercise of liberty or personal preference; it claims to become a fundamental human right. This right, according to him, guarantees parents the freedom to select embryos in order to avoid the birth of children with disabilities. In addition, the right to reproduce also entails the freedom to choose the traits of a future child, such as its sex, hair, or eye colour, etc.

According to Harris, investigation of sex selection will have its impact on other ‘morally neutral’ traits like hair colour, physique, etc. He acknowledges that ‘gender’³¹ selection is an example of ‘designing’ babies, as it involves choosing between different possibilities or plans. Designing babies — given its being defined as selecting the sex, hair colour, etc. — is not morally wrong, as it does not affect negatively the designed baby. For Harris, choices of sex and hair or eye colours are considered morally neutral, as he assumes that no reasonable person thinks it could be morally preferable to have one hair colour instead of another, or likewise to have one gender instead of another. Harris points out that gender is harmless, and that it is not harmful for a person to be a man or a woman. This assertion, however, fails to recognize that social structures and practices that are oppressive and disadvantageous to women exist even today; this will be discussed further in the following section.

To develop his argument in favour of reproductive liberty as a fundamental human right, Harris frequently refers to Ronald Dworkin, who has emphasized the distinction between liberty

³¹ Harris uses term ‘gender’ to refer to biological term of ‘sex’.

as license, and liberty as dignity or liberty as a basic right. Dworkin defines reproductive autonomy as “a right to control their own role in procreation unless the state has a compelling reason for denying them that control.” Dworkin rejects the abstract nature of the right to liberty; however, he points out the importance of rights to specific liberties. In particular, he acknowledges the rights of freedom of religion and freedom of speech or expression as rights protecting values of particular importance, or moral and political significance. Procreative autonomy for him is guaranteed by the First Amendment of the Constitution of the United States of America, which protects freedom of religion and expression. Being able to express oneself, *inter alia*, through the exercise of procreative liberty rights, “stems from the moral values each of us has.” Referring to the harm principle, Dworkin claims that “if constraints on basic liberties harm us, it is not because of the constraint on liberty itself, but because of its impacts on something beyond liberty.” (Dworkin R., 1977; Dworkin R., 1993).

While Harris, Robertson and other liberal thinkers attempt to answer whether or not it should be allowed to carry out genetic enhancement, other authors, like Nicholas Agar and Julian Savulescu, take a more provocative position (Agar N., 2004; Savulescu J., 2009). They argue that “far from being merely permissible, we have a moral obligation or moral reason to use science and medical technology not just to prevent or treat disease, but to intervene at the most basic biological levels to improve biology and enhance people’s lives. Not only can we enhance, we should enhance” (Savulescu J., 2001). Here, Savulescu brings forward what he calls the principle of ‘Procreative Beneficence’ which places a moral duty on “couples (single procreators) to select possible children they could have, who are expected to have the best life, or at least as good as a life as the others, based on the relevant available information.”

In defence of his argument for procreative beneficence, Savulescu brings an example of a “simple case of selection for disease genes.” He refers to disease genes as the ones that cause a genetic disorder or predispose to the development of a disease, while non-disease genes cause or predispose to some physical or psychological state of the person that is not itself a disease — such as height, intelligence, and character traits that are not in the subnormal range (Savulescu J., 2001). In the given case, a couple is attempting to have a child through IVF, which results in producing two embryos. Embryo A appears to have no abnormality, while Embryo B is revealed to have a predisposition to developing asthma — however, it has no abnormality as well. Under these circumstances Embryo B has no arguments in favour of being chosen, and the choice of Embryo

A cannot be criticized on any ground. This case, according to Savulescu, supports Procreative Beneficence since selecting the embryo without a genetic disposition to asthma is ‘intuitively correct’.

Savulescu claims that other existing principles of reproductive decision-making do not give appropriate direction in the ‘simple case.’ In particular, he discusses principles of ‘Procreative Autonomy’, ‘Non-directive Counselling,’ and ‘Best Interests of the Child’ to argue that these are either supportive of his conclusion or are otherwise irrelevant.

In his account of non-disease gene enhancements, Savulescu insists enhancements can help us live our ‘best life’ (the life with the greatest well-being). He claims that most theories of well-being agree on the matter that some non-disease genes will increase the possibility of leading the best life — such as genes controlling violent, explosive, or uncontrollable temper, and so on. He considers two main objections against the principle of procreative beneficence: *the supposed harm to the child*, and *increase of inequality*.

There are a number of counterarguments that Savulescu brings against those who claim that genetic selection for non-disease traits is harmful to the child. In particular, he notes that “parents come to love the child whom they have.” It is not yet clear what Savulescu attempted to prove with this argument. If he meant that parents can love their children unconditionally both in cases when the children are healthy (best versions of themselves) or disabled, then his argument is not really sound. If parents are capable of accepting their children whichever way they come (male, female, physically or mentally disabled), then why not try to love them without being selective? Secondly, he argues that Procreative Beneficence does not imply carrying out genetic manipulations of a single gamete, embryo, or fetus, but rather implies a selection (e.g. sex selection) from among a range of different gametes, embryos and fetuses.

The other objection against the procreative beneficence is that it will strengthen or even increase inequality among the community members and undermine reproductive autonomy (Bennett & Harris, 2002; Shakespeare, 1998). Savulescu notes that disease-genes lead to similar claims;³² however, he argues that it is of no importance whether it is a non-disease or disease gene — rather, what is crucial is its impact on the person’s well-being. So, in a counter-intuitive example

³² Such as claims of Disability Discrimination, which argue that prenatal testing for disabilities (e.g., Down syndrome) results in discrimination against those that have these disabilities both by the statement about the worth of such lives and the reduction in the numbers of people with this condition.

of sex selection, if parents live in a country where women are severely discriminated against, then parents have reason to select a male child since male children are expected to have better lives in such societies—even if this further strengthens discrimination against women. He claims that the “gender discrimination issue needs to be addressed through a social institutional reform, [and] it should be done separately from the reproductive decision-making” (Savulescu & Dahl, 2000).

He further tries to argue that the existing data of Gender Clinics at that time did not support the second objection of the Committee that non-medical sex selection can reinforce gender bias in a society. He mistakenly assumes that “since couples seeking sex selection are almost exclusively motivated by the desire to balance their family and choose girls with the same frequency as boys, it is hard to see how their choices are supposed to contribute to society’s gender discrimination.” This argument of Savulescu is rather speculative since there are currently no studies (or very limited ones) that could prove that non-medical sex selection in favour of girls happens as frequently as selection for boys.

Furthermore, he refers to the Committee’s statement that the use of preimplantation genetic diagnosis selection should not be encouraged for non-medical sex selection because of the ethical problems it causes. Here he assumes that it would be unreasonable for a woman to undergo a burdensome IVF treatment only for the sake of selecting the sex of her child. Therefore, if a woman is willingly imposing upon herself such a burden (both financial and psychological) to achieve the desired sex of her child, then she should be allowed to do so. According to him, instead of respecting the autonomous decisions of a woman with regard to determining the constitution of her family, the Committee should rather focus on the physical risks of PGD on birthed children.

In summary, the libertarian account of reproductive autonomy is understood as a right to reproduce, which includes the right to choose children with or without disability, and/or with specific desired traits, as well as the right to refrain from reproducing at all. Libertarian arguments on reproductive autonomy can be divided into 3 main groups: arguments on state non-interference in the individual’s reproduction process, arguments on expanding available choices of procreators, and arguments on harm. Although these arguments remain some of the most influential accounts of reproductive autonomy, there are several reasons why they do not fully reflect the complexity of the concept.

Summary of Critical Arguments Against Libertarian Account of Reproductive Autonomy

Libertarian Claims About Negative and Positive Liberty

Despite significant differences between different libertarian theories, most of them are characterized by the same key traits. Libertarians mostly agree on the claim that reproductive autonomy is a basic human right and is thus protected from unjustified state interference. The right to reproduce or to refrain from it, or the right to reproduce on terms chosen by the procreators should be regulated on the highest state level. Reproductive policies should additionally reflect the individual preferences of procreators by maximizing options available to them. Nevertheless, this claim is problematic on several grounds. First, as criticized by many (Mills, 2011), the contemporary conception of reproductive autonomy fails to be characterized only as a negative liberty, but instead involves multiple actions that require active engagement of the state, medical institutions, or its staff. Robertson notes:

“As a matter of constitutional law, procreative liberty is a negative right against state interference with choices to procreate or to avoid procreation. It is not a right against private interference, even though other laws might provide that protection. Nor is it a right to have the state or particular persons provide the means or resources necessary to have or avoid having children... Access to medical care, child care, employment, housing, and other services may significantly affect whether one is able to exercise procreative liberty. However, the state presently has no constitutional obligation to provide those services.”
(Robertson, 1996)

This way of interpreting autonomy is troublesome since the libertarian understanding of autonomy includes determination of children’s characteristics — not merely the procreator’s choice whether or not to procreate, which requires mostly negative liberty. However, when libertarians claim that ‘meaningful and satisfying parenthood’ also involves picking up genetic traits or avoiding certain diseases, they require from the state more than a plain non-interference (Hendl T., 2015). They require the state to get involved by providing necessary services for procreators to act upon their individual preferences. Robertson and others acknowledge that this type of involvement

necessitates claim rights, which the state is not ‘constitutionally bound’ to provide. This type of account results in a contradiction with the central argument that reproductive autonomy is a negative right.

Lack of Reference to Social Factors Behind Autonomy and Disregard of Social Justice Implications

The libertarian account of autonomy has additionally been criticized due to its lack of reference to the social context in which autonomy is enacted. Libertarians mostly focus on the idea of how to expand individual choices and the opportunities provided by emerging technologies. Very few libertarians, if at all, have taken into consideration social factors that enable them to exercise what truly are their ‘autonomous choices’ (Buchanan, Brock, Daniels, & Wikler, 2000). An example of the discussion on social justice implications is Buchanan’s perspective on enhancement, which will be analyzed in the next chapter. On the other hand, there is a vast amount of literature that indicates how social factors can influence our individual choices (Mackenzie & Stoljar, 2000.; Mackenzie, 2010; Sherwin & Stockdale, 2017; Wardrope, 2015).

Disregard of social forces that limit individual autonomy leads to the second flaw in libertarian arguments, which is a failure to recognize the interrelationship between autonomous individuals. Theorists who support the relational autonomy account consistently argue that no reproductive decision can be made only on an individual basis. They suggest that behind every decision on reproductive issues lie multiple factors, such as relationships/interdependence with other people or social institutions (government, religion, family) (Hendl T., 2015). These relationships are ultimately responsible for how our autonomy is enacted (enhanced or limited). A widespread demonstration of how relationships can shape reproductive decision-making is a pregnant woman’s choice to have abortion after her partner refuses to take responsibility for the child’s maintenance.

Relational autonomy theory has resulted in a more comprehensive understanding of the concept of autonomy. It has successfully questioned the libertarian dominating position that

reproductive autonomy has a strictly individualistic nature.³³ The following chapter will critically analyze two dominant views on relational autonomy and argue that their interpretation of autonomy with regard to sex selection is problematic.

In addition to a failure to recognize social forces and relationships that can affect individual's autonomous decisions, libertarian theories also lack a clear perspective on how these decisions can influence general social wellbeing. The promotion of individualistic nature of the self is feared to result in disregard for social welfare principles, such as equality and respect. As already discussed, libertarians argue in favour of broader access to assisted reproductive procedures. However attractive their claim may be, it lacks a comprehensive practical vision for how to make these technologies accessible to people with different socio-economic conditions.

The egalitarian perspective on the morality of selective reproduction is not limited to discussing issues of equal access to assisted reproduction. Another similarly important focus of egalitarian views are the outcomes that such access will generate.

Natural Reproduction vs. Assisted Reproduction

A third problematic issue with the libertarian account is the confusion between natural reproduction and reproduction through assisted technologies. Arguing that reproduction should be free from any interference, libertarians mistakenly confuse natural reproduction with reproduction carried out with the involvement of assisted reproductive technologies. This largely overlooks significant differences between the two processes of reproduction. Assisted reproduction cannot take place without the help of assisted reproductive technologies, such as preimplantation genetic technologies and in-vitro fertilization.

On the other hand, natural reproduction occurs without these technologies and is mostly limited to using other technologies: e.g., ultrasound diagnosis, amniocentesis, or non-invasive prenatal tests. These technologies have become a routine part of natural reproduction, as they are widely used to monitor the pregnancy and development of the embryo; however, they are not used as means for procreation. On the contrary, when being used to diagnose with embryo or fetal abnormalities, they can lead to interruption of the pregnancy, but not to altering the traits of the

³³ A more detailed account on different directions that relational autonomy took in the course of its development will follow in the next chapter.

embryo. This is another significant dissimilarity between the two types of procreation. Natural reproduction can only involve intervention with the fetus as part of a necessary medical procedure³⁴, and it does not allow selection of traits, such as disability genes, sex, or race. In the case of natural reproduction, selection of certain traits can be carried out only through postnatal means: e.g., abortion of a fetus with a disability or ‘wrong’ sex, or its abandonment.

This essential difference is thus being disregarded by the libertarians, who make a false analogy between the two by claiming both should be protected by the same high standards. Yet, there are no current reproductive policies suggesting that assisted reproduction enjoys even a slightly similar level of state protection as natural reproduction does. Moreover, arguments in favour of unlimited protection for assisted reproduction significantly neglect any potential unethical use of these technologies and their harmful effects.

It is worth mentioning that natural reproduction does not always proceed without causing harm to the embryo or fetus. Parental misconduct or some external factors can negatively affect the proper development of the fetus. However, the effects of these actions are thoroughly regulated by law.

Libertarian Account of Harm

Libertarians propose regulating the use of assisted technologies by considering the potential harm to embryo/fetus and the mother. Most libertarians agree that reproductive autonomy can be limited when there is a demonstrated ‘severe’ harm as a result of the enactment of procreative liberty. When harm is not sufficient or cannot be proven, libertarians claim that the procreator’s freedom of choice should prevail. The problem with the libertarian account is the lack of a commonly accepted definition of harm or its severity. Some libertarians suggest that harm generally refers to physical disability, such as the child’s being born with genetic diseases or abnormalities (Harris J., 2007). Others mention harm caused by parental misconduct or the use of assisted reproductive technologies (Robertson, 1996).

³⁴ Recent advances in fetal therapy, such as ultrasound diagnostic techniques or non-invasive prenatal testing, have allowed for better detection of fetal anomalies starting as early as at twelfth week of gestation. Several procedures have been since developed to treat or prevent these anomalies without necessarily having to wait for the birth of the child. Such procedures include Open fetal surgery, Fetoscopic surgery, Exit procedures (Maselli & Badillo, 2016).

Other libertarians consider selective reproduction possibly harmful in terms of child commodification; however, they reject the claim that commodification risks are so high as to limit parental autonomy (Wilkinson, 2010). Harm is a key element in the libertarian account on autonomy; despite this, there are at least several errors in libertarian arguments that I find important to analyze in more detail. The following section will describe the basis for the principle of harm, and the major issues connected with its libertarian interpretation. Below, I argue that the libertarian interpretation of harm is problematic and leads to practical implications.

Harm Principle in Debates on Non-medical Sex Selection: The Non-Identity Case

Most critical views on the extension of reproductive choice relate with the harmful consequences of the choice. These consequences include “large-scale gender imbalance, increased discrimination against one sex, start of the slippery slope to more widespread selection, the child being treated as a consumer good, or an inappropriate use of limited healthcare resources” (Scully JL, 2006). These are ‘general’ consequences that can occur in societies with widespread selective practices. However, the question of ‘individual harm’ shall not be undermined when we speak about uncommon selection cases. One particular question has been at the center of debates on non-medical sex selection. Is there any harm where there is no widespread tendency for sex selection in a certain society? Is it measurable? And most importantly: whom can we consider to be a ‘victim’ of these practices? Contemporary debates revolve around the distinction between *individual sex selective cases* and *socially common ones*.

Before discussing the notion of ‘harm’ with regard to individual or socially common selection cases, it is important to address the concept of ‘harm’ itself. The classic interpretation of the principle of harm comes from John Stuart Mill, who argues that individuals maintain sovereignty over their own body and mind, and that the only purpose for which power can be rightfully exercised over any member of a civilized community —against their will— is to prevent harm to others (Mill, 1989). This interpretation, as already noted, is the foundation of the libertarian theories on harm that are shared among most libertarians.

The first problem with the libertarian account on harm in regard to non-medical sex selection is a radically differentiated approach to the same issue in different contexts. In particular, most libertarians agree that non-medical sex selection is a harmful practice in countries with strong

gender discrimination records. According to them, strict regulation of such practices in Asian countries with skewed sex ratios is a justified measure for avoiding harmful impacts of the practice. However, when it comes to regulating the practice in countries where the practice is relatively occasional and does not affect sex ratios, libertarians have a radically different position. Thus, the harmful impact of non-medical sex selection is clearly understood in terms of its ‘widespread practice,’ with its impact being on the whole society. Libertarians do not seem to see a problem when the practice is carried out in developed Western countries, for example, where such an act can be justified by family balancing motivations.

One such assertion is brought forth by Savulescu in his response to the Ethics Committee of the American Society of Reproductive Medicine. He argues that the claim that couples requesting sex selection “identify gender as a reason to value one person over another” is simply unsound. He posits an example of sex selection for family balancing purposes, occurring within a family that already has a certain number of children of a specific sex and desires to have another of the opposite sex. He claims that the preference for a certain sex depends only upon the particular sex of the children they already have. Thus, he insists that the choice is not based on any presumed ‘superiority’ of one sex over the other, and therefore accusing these couples of sexism is unjustified (Savulescu & Dahl, 2000).

This position is problematic for several reasons. First, it assumes that most, if not all procreators in Western countries seek sex selection only for family balancing reasons. Moreover, it implies that selection for family balancing excludes gender discrimination motivations. It will be argued later that the gender essentialism problem represents an ethically controversial issue as well. Arguing against the prohibition of the practice in Western societies, libertarians fail to address, for example, the issue of an increasing number of selective practices in certain minority groups, such as in Indian-born families in the UK (Dubuc, 2007).³⁵

Secondly, the libertarian interpretation of harm predominantly refers to *physical* harm. Robertson claims that the “pregnant woman has a duty to avoid harm to her offspring with actions that have very little benefit for her.” Unless these actions are absolutely necessary — such as

³⁵ Dubuc and Coleman carried out a study in 2007 using data from the UK registration system for births in order to compare sex-at-birth ratios of immigrant and UK born mothers. Results of the study indicated a four-point increase in the sex ratio at birth for mothers born in India suggesting that sex-selective abortion is occurring among mothers born in India and living in Britain.

chemotherapy for her own survival — a pregnant woman must refrain from engaging in them. Similarly, she must avoid smoking or consuming drugs and alcohol. A woman's autonomy, according to Robertson, may also be limited by making her perform certain actions. He claims that it is "morally defensible to impose a duty on her to accept necessary medical treatments geared toward the wellbeing of the fetus.

Harris tries to come up with his own explanation of what constitutes harm. He argues that "to be harmed is to be put in a condition that is harmful, where a harmed condition obtains wherever someone is in a disabling or hurtful condition, even though that condition is only marginally disabling and even though it is not possible for that particular individual to avoid the condition in question," or more simply, "a harmed condition is one in which an individual is harmed or suffering in some way" (Harris J. , 1998). I argue here that Harris not only wrongly interprets harm as being of mostly physical nature, but he also maintains a definition of harm that is somewhat tautologous and too vague to implement in practice.

Harris rejects Feinberg's view that the principle of harm combines two understandings of harm: a non-normative notion of as setbacks to interest, and a normative notion of harm as a wrong (Harris J. , 1998; Feinberg J. , 1987). He claims that Feinberg's focus on criminal law limits the understanding and application of the harm principle in ethics. Meanwhile, he attempts to narrow down his own interpretation and claims that 'only real and present harm' can be the basis for limiting reproductive liberty, and not 'future and speculative' harm (Harris J., 2007). He provides one example of setting a lower bar, where even a relatively minor disability can be understood as a harmed condition. According to him, a child born with a missing finger can be an example of a 'real and present' harm, if the child himself feels harmed compared to other children. He argues that even though it cannot be said that the life of a child being born with a missing finger is not worth living, his harmful condition could nonetheless have been prevented. This interpretation, however, does not go in line with the general libertarian claim that harm should be of severe nature.³⁶

³⁶ If we follow Harris and set a lower standard, then more such cases can be expected. An example of this can be the abortion case that took place in 2014 when an Australian couple decided to abort the female embryo because the child was diagnosed with nothing more than a cleft hand. The disability was first diagnosed when the woman was 23 weeks pregnant. Putting aside that fact that the abortion was carried out during the 28 weeks of gestation, which is ethically controversial itself, it was claimed to avoid any future discrimination against the child. The couple stated that "the problem was obvious because it is the fingers, and that the child would have a very hard life." In spite of the fact that the disability of was not life-threatening and baby had over a 90% chance of surviving outside the womb with proper

Harris's claim that harm should not be future and speculative is perhaps more controversial and thought-provoking, especially when applied to the case of sex selection. He argues that there is no complaint that a 'victim' of sex selection can make, because for her no alternative ever existed. 'She' could not have been a boy, because if she had been born a boy, that would not have been a case of sex reallocation; rather, it would have simply involved the creation of an entirely different person (Harris J. , 2007). Here Harris refers to the so-called non-identity problem, which originated with the work of Derek Parfit.³⁷ However Harris's claim largely ignores the complexity of the non-identity problem. To argue this, I will discuss Parfit's theory in more detail below.

Parfit thoroughly addresses the both the positive and negative possible effects of our actions on future people. He claims that some of our actions have a personal effect, while others remain as 'impersonal', since those fail to affect specific individuals in the near future. Despite the fact that impersonal actions do not make specific people's lives better or worse, they can *change* which individuals will exist in future (Parfit D., 1984), (Doolabh K., Savulescu J., Selgelid L., *et al.* 2019). Parfit describes the existence of the problem by bringing two initial examples: *first*, the example of a 14-year-old girl who becomes pregnant, and *second*, the depletion and conservation example.

In the first case, he suggests considering whether a girl, who has no financial stability and experience and decides to conceive a child at fourteen, is harming or benefiting her child. Parfit claims that she is neither harming nor benefiting him, because if the mother were to instead decide to wait, she would conceive not *this* particular child, but another one. Thus, by deciding to give birth, she does not deprive *this child* of having a better life, as he claims many others would argue.

Furthermore, Parfit suggests considering the choice between two social or economic policies: Depletion and Conservation. In the case that the community selects Depletion, they will have a slightly higher quality of life over the next two centuries, as compared to the case when they select Conservation. However, many centuries later their quality of life will be lower than it

healthcare, the abortion was surprisingly performed on legal grounds. Although the Australian abortion laws vary from one state to another, most of them ban late-term abortions. One of few exceptions is Victoria, where legal post-24 weeks abortion with two doctors' approval is allowed. However, what matters in this case is that even such a minor disability as a cleft hand can be considered by some as a threat or an obstacle of having a life worth living.

³⁷ In his 'Reasons and Persons' Parfit discusses personal identity and moral theory of human existence by introducing his Time-Dependence Claim. The claim states as: "If any particular person had not been conceived within a month he was in fact conceived, he would in fact never have existed."

would have been if they had chosen Conservation (Parfit D., 1984). The chosen policy will likely impact the lives of people who exist at the moment, and there is a probability that people who come into existence later will be affected as well. What Parfit argues here is that, even though our choice of Depletion today may have an impact on future people, these people cannot complain because they would otherwise not have existed at all. Both cases suggest that our actions can cause the existence of different people, and that neither the original possible offspring nor the offspring that may result from our behavioural changes can be essentially harmed or benefited as a result of our actions.

Harris apparently refers to the first case example when he supports the non-identity conclusion. Yet, this position is very problematic since he seems to underestimate the effects of accepting such a conclusion. In order to elucidate the more complex implications of the problem, let me address a few other examples brought forth by Parfit.

Perhaps a more relevant case to our discussion on genetic selection and gene editing is his ‘Medical Programmes’ example. Parfit describes a scenario in which two rare diseases — Condition J and Condition K — when contracted by pregnant women, can result in a disability in their future children. He offers a choice between 2 medical programs to fight against those diseases. One of the two programs, ‘Pregnancy testing,’ checks whether pregnant women have contracted Condition J and treats them in the case that they have. ‘Pro-conception testing,’ on the other hand, tests for Condition K and offers a postponement of pregnancy if the women have contracted it. Women who are offered ‘Pro-conception testing’ can be successfully treated and can later give birth to healthy children, who will end up being *different* children than they would have been if the mother had not postponed the pregnancy. ‘Pregnancy testing,’ however, does not lead to a *change* of the resulting children, and it is simply limited to treatment of the existing ones.

Unlike the case of the underage girl giving birth to a child, the latter two cases involve scenarios where the *person-affecting* principle³⁸ is involved. The person-affecting view implies that when we choose, for example, Depletion — or when we decide not to carry out prenatal testing, our future generations are affected either for better or worse or better. According to Parfit, the person-affecting view is an easier moral case compared to the *impersonal principle* which maintains that our choices and actions do not directly affect anyone (Parfit D., 1984). There are

³⁸ Terminology belongs to Parfit himself.

several views on the moral significance of non-identity for regulation of issues related to reproduction. As Doolabh, Savulescu, Selgelid, and Wilkinson (2019) mention, the first of these views underlies the importance of the person-affecting principle, which implies that only personal actions have “moral weight, good or bad, because they do not help or harm any specific individuals.”

The other view that Parfit himself defends and names is the ‘*no-difference view*’ (Parfit D., 2017). According to it, only the overall wellbeing of future people is important — not whether certain individuals are harmed or benefited. He brings the example of the Risky Policy that involves a community’s choice to bury nuclear waste in areas safe from earthquakes, which will keep the standard of living higher for a few centuries. However, after many centuries, an earthquake causes a release of radiation that kills thousands of people. Parfit claims that those who suffered the consequences of the policy (death or impairment) are not harmed by the policy itself, since it was the community’s choosing the policy that led to their birth, and thus these affected persons were born in the only situation they could have been (Bennet, 2009).

If this is true, one might argue that the central argument of principle of beneficence is counterintuitive. This principle, which Parfit and later Savulescu support in their claims, requires us to produce the best children (i.e., children who have the best life standards or opportunities). Thus, for them the only relevant moral factor is the “quality of life of future children rather than the specific identity of future children (Doolabh, Savulescu, *et al.*, 2019).” If we cannot harm or benefit future people through our impersonal actions, then how can future generations benefit from our gene editing or selecting procedures? Intuitively, if there is no harm, there is also no benefit for the future people, so there is also no need for any enhancement.

Harris’s position is difficult to understand or justify. He has claimed on multiple occasions that sex is a morally ‘neutral’ trait and that “gender is harmless: being a girl or a boy is not bad for anyone.” Moreover, he argues that sex selection can neither improve or worsen someone else’s situation. It is only important for Harris that individual preferences, such as selecting future children, be allowed based on “respect for autonomy and values that underlie the importance attached to procreation.”

He compares the freedom to choose one’s children to the freedom of drinking coffee or buying a shirt. He claims that even though our choices might seem trivial to some, their enactment as part of a fundamental right should be protected. This analogy cannot be taken seriously.

Drinking coffee or choosing a desired shirt does not and cannot pose any harm either in a practical or a theoretical manner, unlike in the case of sex selection. By later referring to skewed sex-at-birth ratios in several countries, he seems to recognize the risks that such entitlement can pose. Thus, he proposes implementing a ‘modest proposal for a Licensing Scheme’ that will allow a certain number of sex selection in a ten-year time frame. Apart from limiting the number of selective practices, Harris suggests allowing selection only using sperm-sorting or pre-implantation genetic technologies, in order to make the process accessible to a restricted number of people. Harris does not elaborate further on why he chooses to restrict sex selection practices to these two technologies. Although he does not directly mention it, he offers a hint that there are morally important differences between the *manners of choosing* (Harris J., 2007, pg. 146).

The consequences of Harris’s trial plan will be more important than he thinks. Allowing certain people (most probably the financially privileged ones) to access sperm sorting and PGD technologies for selecting the sex of their children has a real potential of creating unequal opportunities within society. Even if we did not limit access to selection to the wealthy, but perhaps included ‘selection lottery-winners’ among those who could not afford to pay, the message sent to society would be the same: the rare opportunity to impact the sex of children could potentially become a ‘forbidden fruit’. At this point the issue will cease to have merely a theoretical importance, and will affect some practical implications as well.

Moreover, by allowing this ‘intermediate’ regulatory approach, can we be sure that existing unequal opportunities will not lead to people choosing alternative manners of selection, such as abortions? Taking into consideration the easier access to abortion services and the difficulty of implementing regulations that prohibit sex disclosure before a certain term in pregnancy, it seems improbable. In addition, from a theoretical standpoint it is particularly difficult to ethically justify conflicting regulations of the same issue.

In contemporary bioethics, reference to the non-identity problem can have significant implications for a wide range of legal issues. Some of these issues are well described by Samuel Walker, who analyses the outcomes of distinction between potential and actual persons in medical law, as well as the welfare of these persons. In particular, he notes that acceptance of the validity of a non-identity conclusion will lead to uncertainty in cases of civil liability for prenatal harm, since “no person exists at the time when harm occurs (Walker S., 2014a).” Moreover, he claims that the non-identity problem will likely affect errors in genetic testing before conception, or in the

assessment of the welfare of children born as a result of artificial procreation and genetic selection/modification (Walker S., 2014b).

For Walker, a more practical example that further problematizes acceptance of the non-identity conclusion is the Thalidomide case. He argues that treatment with Thalidomide (Thalomid) will usually harm (alter) the genomic structure of the fetus, a consequence which would have not occurred if the medication was not used by the pregnant woman. This implies that the fetus (later the actual person) is affected by the medication in a certain way, but does it also imply it has changed him/her? According to Walker non-identity generates ‘an ambiguity problem’ which manifests a “lack of metaphysical precision when it comes to a person existing (Walker S. , 2016).” Different views on the start of a person’s existence can limit the application of the non-identity conclusion, since for some the person exists from the moment of fertilization, for others only after being born, and so on.

To summarize, I restate that the non-identity conclusion is a key focus in libertarian arguments favouring an expanded version of reproductive autonomy. The lengthy discussion on the non-identity problem is aimed at arguing against this strong libertarian position regarding the lack of harm from selective reproduction.

I have attempted to argue that reference to the non-identity conclusion as a justification for sex selection is problematic and controversial. I must agree that several of Harris’s arguments in favour of selection have a strong basis, and it may be difficult for some to see an apparent harm resulting from certain selective methods, such as from the use of preconception selective tools. However, I maintain my position that Harris’s attempt to justify sex selection through the non-identity conclusion is: *first*, full of potential to cause practical implications, and *second*, defenseless to criticism regarding its theoretical foundation.

Chapter 4: Arguments against Libertarian Justification for Sex Selection

Relational Autonomy Perspective: Critique of Libertarian Individualistic Autonomy

In the 1980s, the libertarian perspective on individualistic autonomy began to be questioned by feminist bioethics scholars, for whom autonomy was seen not as an individualist moral norm but rather as relational autonomy, which is premised on the shared conviction that persons are socially embedded and that their identities are formed in the context of social relationships (Mackenzie & Stoljar, 2000). Unlike the individualistic model that considered a person as an isolated entity, the concept of relational autonomy outlines the social network and the influence of external factors. According to Mackenzie and Stoljar, ‘relational autonomy’ is an umbrella term, which seeks to clarify personal autonomy in a method that highlights the role of cultural and economic factors, and especially the role of social relations. It has been present throughout the history of feminist bioethics (Sherwin & Stockdale, 2017).

The term ‘relational,’ however, became prominent by the end of the 1990s, when the first collection dedicated to feminist relational theory was produced.³⁹ The concept of relational autonomy became an important part of discussions around most important bioethical issues, *inter alia*, sex selection, prenatal diagnosis, the commodification of bodies, and genetic modifications (Mackenzie, 2010). Although the concept of relational autonomy has been interpreted in several different ways, most authors agree on the core ideology of the concept: the role of the personal and environmental circumstances on a person’s deliberative capacity.

Relational autonomy, according to some scholars, can be classified into two groups: procedural and substantive. The procedural theorists claim that autonomy is achieved when the agent undergoes, or has the capacity to undergo, an internal intellectual process of reflecting on

³⁹ Feminists agree upon a general idea that capacity to exercise autonomy in a social context has long-running restrictions for women, in particular for women who are of colour, are disabled or poor. After the famous *Roe v. Wade* U.S. Supreme court case, Judge Ruth Bader Ginsburg considered it an irony, that for poor women (mainly minority representatives) access to abortion didn’t become markedly different from what it was before the ‘pre-Roe’ case, unlike wealthier women representatives of the society. Johnston argues that this “attention to the relationship between reproductive rights and persistent inequalities has resulted in a reproductive justice movement” (Johnston & Zacharias, 2017).

her motivations, beliefs, and values, and then revising her preferences in light of such reflection (Stoljar, 2015; Frankfurt, 1989; Dworkin R., 1977). This process is said to be *content-neutral* because the outcomes of the process of critical reflection, regardless of their content, will be autonomous. Substantive theories claim that autonomy is a *value-laden notion*. According to strong substantive approaches, “the contents of the preferences or values that agents can form or act on autonomously are subject to direct normative constraints” (Stoljar, 2015).

Feminist relational autonomy has its own valuable contribution to contemporary autonomy theory in bioethics. While early feminist literature was sceptical about the concept of autonomy, as it was considered to enhance ‘masculinist’ or ‘atomistic’ ideals of personhood, it soon started to redefine the concept from feminist perspective (Stoljar, 2015). Causal accounts of relational autonomy emphasize the impact of both social relationships and socio-historical circumstances on agents' capacities. According to McLeod, unlike standard conceptions of autonomy that are individualistic, feminist relational autonomy acknowledges the role that power relations play in our society by undermining our autonomy (McLeod, 2002). The following section of the chapter seeks to discuss the concept of ‘autonomy’ from both procedural and substantive perspectives.

The first part of this section will focus on the substantive account of relational autonomy and more specifically will analyze the position of Catherine Mills, who, in her book *Futures of Reproduction. Bioethics and Biopolitics*, provides a lengthy discussion on ethics of selective reproduction.

Mills rejects the libertarian understanding of autonomy as only a negative right. Most of her work is dedicated to the central argument that reproductive liberty also involves a positive freedom, which requires procreators to act in certain ways or refrain from actions that are ethically or morally controversial. Mills refers extensively to the work of Foucault to argue that this positive freedom exists in the capacity for *self-formation*. Summarizing Foucault’s argument, she states that “self-formation as an ‘ethical subject’ involves a process in which an individual delimits that part of himself that will form the object of his moral practice, defines his position relative to the precept he will follow, and decides on a certain mode of being that will serve as his moral goal” (Mills, 2011). Her perspective on autonomy gives greater importance to ethical self-formation as a dimension of autonomy, than it does to more ‘standard’ conceptions of ‘self-discovery’ or ‘self-reflection.’ Self-formation for Foucault is “a matter of developing a reflexive reaction to oneself that constitutes oneself as an ethical subject of one’s own actions, through the selection of certain

actions or a form of being as the object of ethical concern and the transformation according to more or less voluntarily applied criteria’.

Extrapolating from Foucault’s construal of ethics, Mills notes that reproductive freedom only gains meaning and reality through its enactment in everyday practices of ethical self-formation. She refers to the typology of an ethics of self-formation as suggested by Foucault, to explain how the ‘free reproductive subject’ is born. In particular, she notes that democratic presumption acts as a norm of individual freedom embedded in the culture of Western liberal democracies. Through the enactment of that norm in everyday practices, free subjects are produced. The ‘telos’ of this practice, according to Foucault, is to become a free (reproductive) subject, regardless of whether it has been explicitly recognized or not.⁴⁰ He notes that the desire and capacity for reproduction, activities associated with child rearing, and ‘the mode of subjection’ require taking responsibilities for decisional choices. These choices and everyday practices of oneself as a reproductive agent involve different actions, ranging from the use of contraception to prevent pregnancy, and negotiations of medical procedures, to the maintenance of a pregnancy that results in the birth of a healthy child.

The core idea that Mills tries to support is that individual (reproductive) freedom does have a distinctive force as a moral idea or principle, which is not undermined by a norm of subjection, but rather is supplemented by it. With this statement she argues against Isaiah Berlin, who saw negative and positive liberty as being opposed to one another. He argued that negative and positive liberty are not merely two distinct kinds of liberties; in fact, they can be seen as rival, incompatible interpretations of a single political idea (Berlin, 2002; Carter, 2018). The difference between the two concepts lies in the fact that theorists of negative freedom are primarily interested in the degree to which individuals or groups suffer interference from external bodies, while theorists of positive freedom are more attentive to the internal factors affecting the degree to which individuals or groups act autonomously. Mills suggests that Foucault’s theory of ethical self-formation can support the conclusion that negative and positive concepts of liberty do not necessarily conflict; rather, “they appear as mutually reinforcing and constitute two dimensions of ethical self-formation.” If this is true, then accordingly the delineation of procreative liberty as solely negative is unsustainable. She adds that “any effective capacity to exercise the right to access reproductive

⁴⁰ <https://www.iep.utm.edu/fouc-eth/#SH3d>

technologies that are supposed to be protected by that reproductive liberty will require the cooperation of medical experts and others to ensure the success of that reproductive project” (Mills, 2011).

Referring to Onora O’Neill, Mills argues that contrary to the belief of Harris and Dworkin, reproductive freedom should not be seen as a matter of self-expression, or in other words, as an analogy to a constitutionally protected freedom of expression (O’Neill, 2002). According to Mills, the falseness of the argument of analogy between reproductive liberty and freedom of expression lies in the fact that the former aims to produce another rights-bearing individual, while the latter does not. Ignoring the difference between these two constitutes a form of ‘moral narcissism,’ (Mills, 2011).

Returning to the argument about the existence of only the negative feature of procreative liberty, Mills argues that both Robertson and Harris fail to acknowledge implications of self-making that the conceptions of autonomy and reproduction suggest; rather, their approaches stress the moment of choice. To draw an additional argument, Mills adds that “it is not simply genetic inheritance that establishes the importance of reproduction in people’s lives; rather it is the bonds of familial attachments, and the vulnerability and responsibility that they entail, in the variety of forms they take, that ensure the existential and ethical significance of reproduction.” (Mills, 2011).

Catherine Mills’s perspective on autonomy represents a ‘radical’ feminist approach that defines autonomy not only as ‘self-reflective’ and ‘self-discovering,’ but also as ‘self-making’ (self-formative), as opposed to the perspectives of more liberal feminists, such as Marilyn Friedman (to be discussed below).

Liberal feminists, as opposed to radical and cultural feminists, focus more on the availability of autonomous choices, rather than the surrounding environment in which those choices are made. Being confronted with ethical dilemmas about reproduction, liberal feminists argue that “there is nothing special about women’s reproductive capacity that justifies limitation of their freedom to choose among reproductive alternatives that are not inherently harmful.”⁴¹

41 One example of an unjustified limitation of reproductive choices is brought by Laura Purdy, who argues in favour of surrogacy. She claims that the existence of a contract and reproductive liberty should allow women to provide or use services of surrogates (Purdy, 1996). Moreover, she denies the importance of ‘mere’ biological difference and emphasizes the significance of enactment of autonomy through choices (Dodds, 2000).

One of the most prominent supporters of procedural accounts of autonomy, Marilyn Friedman defines autonomy as *self-determination* in her book *Autonomy, Gender, Politics*. Friedman's account of autonomy implies that "for choices and actions to be autonomous, the choosing and acting *self* must play a role in determining them." In other words, the self, as the particular self must somehow (partly) determine what she chooses and does. Friedman's version of autonomy is based on *self-reflection* that is "a process in which a whole self takes a stance toward particular wants and values she finds herself to have" (Friedman M., 2003).

Friedman argues that choices and actions can be autonomous only if they are self-reflective in two senses and meet at least two other conditions. As mentioned, *first*, they must be "self-reflective in being partly caused by the actor's reflective consideration of her own wants and values, where reflective consideration may be cognitive in a narrow sense or also affective or volitional and cognitive in a broad sense. *Second*, they must be self-reflective in mirroring those of her wants and values that she has reflectively endorsed. *Third*, the underlying wants or values must be important to the actor. *Fourth*, her choice or behaviour must be relatively unaffected by conditions, such as coercion, deception, and manipulation, which can prevent self-reflection from leading to behaviour that mirrors the values and commitments a person reaffirmed." Thus, according to Friedman, autonomous choices and actions are those mirroring the wants or values that an acting person has reflectively reaffirmed and that are important to her (Friedman M., 2003).

While discussing the correlation between individuality and sociality, Friedman argues that "the recognition that our individual identities, values and concerns that we regard as expressive of who we are, are formed by our social situation and by significant social relationships." Moreover, our very capacities for self-reflection are themselves developed in a social environment that may foster and encourage the development of those capacities. According to her, these factors do not undermine the possibility of autonomy as long as a person reflectively endorses her choices, values and concerns.

Friedman's central argument is that idea that the value of autonomy is grounded in the "value of an agent's first-person perspective or her perspectival identity." Thus, she suggests that "an ideal of personal autonomy is based on the presumption that there is value in a life lived in accordance with the perspective of the one who lives it." Although Friedman's approach to autonomy is relational, 'her autonomy' is primarily of an individualistic nature. This does not imply that Friedman ignores or diminishes the importance of social factors and relationships. She

mentions that since each person is a separately embodied being, with a distinct identity and life narrative, autonomy is crucially bound up with individuality and individuation; it is about shaping a life of one's own, and expressing one's distinctive individual identity (Friedman M. , 2003).

Friedman argues that substantive conceptions of autonomy are a 'genuine' form of it; however, the "content-neutral approach sets an appropriate minimum threshold for self-determining agency." Individuals thus need a greater degree of critical reflection to recognize norms that are either harmful or harmless.

Friedman's theory is more difficult to apply to the case of non-medical sex selection. There are several factors that make her arguments ambiguous and contradictory in terms of their applicability to selective reproduction. First, Friedman, as a liberal feminist, argues in favour of a content-neutral perspective of autonomy. This perspective can be criticized due to the absence of limitations on the content of what autonomous agents may care about or choose based on their reflection. In other words, Friedman's theory does not require autonomous agents to maintain or support certain values and preferences. These sets of values can change over the course of an agent's life-plans.

In the context of sex selection, Friedman's account can be interpreted in a way that allows autonomous agents — women — to decide whether they want to carry out selection or not. It may not appear to be problematic at first glance to give women the right to do that. However, the key issue here is how to define whether these women are *truly* autonomous in their decisions to carry out selections. Friedman's account is insufficient for addressing this problem. Her content-neutral perspective does not enable an adequate conceptualization of what autonomous and non-autonomous agents are. Although content-neutrality will enable these women to make choices that are arguably a reflection of their 'true self,' these choices and actions might be considered immoral by others. A woman's decision to have a selective abortion may be considered autonomous as long as she has engaged in a self-reflective process of her own desires/wishes and is free from interfering conditions.

This example leads us to two important conditions that make autonomy possible for Friedman. *First*, autonomous choices should constitute "reflections of her wants and desires that already characterize her"; *second*, these choices should not be impeded by interfering conditions such as coercion, deception or manipulation" (Friedman M., 2003).

Friedman's procedural account overlooks the constitutive role of external conditions in the definition of autonomy. By limiting those conditions to coercion or deception, Friedman crucially fails to acknowledge the impact of general social upbringing on the development of an individual's autonomy. A woman's decision to abort a female fetus may not be directly caused by any of these actions, but may instead be a result of her growing up in a society where women are praised and valued for their role of producing sons. Let us consider the case of a woman from a country with a lengthy history of sex discrimination. Given the influence of oppressive ideology, this woman may desire to abort a female embryo because of the social stereotypes attached to having a son. This might be her own 'self-reflected' desire, or it could otherwise be the effect of internalized oppression. Friedman's theory cannot adequately explain why these types of cases appear to be non-autonomous. Perhaps in a more gender egalitarian society a woman's decision to undertake selective abortion would be less debatable in terms of the degree of autonomy attached to it, but in the case specified there are important considerations that Friedman's account fails to address.

The relational autonomy theory, including both procedural and substantive, provided a more comprehensive understanding of autonomy, as it expanded beyond the focus on negative rights and paid close attention to the context that shapes and constrains reproductive decisions. It extensively discussed the importance of social relationships on developing the autonomy of individuals and particularly emphasized the role of political oppression in this process. A great example of this is the case of non-medical sex selection. In this context, relational autonomy has significantly shaped our understanding of how social relationships and other social factors can influence women's reproductive choices. However, this discussion has once again underscored the existence of somewhat controversial directions that relational autonomy theories took in the course of their development.

While both procedural and substantive perspectives focus to some extent on the effects of oppression and social relationships on an individual's autonomy, there is no consensus between the two of how much weight should actually be given to these circumstances. The answer largely depends on what individual agents consider as their *own* desire, intuition, or value. Proponents of substantive theories will most likely make choices that comply with more general requirements of morality — while more liberal theorists, such as Friedman, will recognize the importance of individual decision-making, regardless of others' attitude to the issue.

I will conclude with the words of Mackenzie & Stoljar (2000):

“Feminists defend relational conceptions of autonomy that emphasize not only how the social aspects of persons interfere potentially with their ability to be autonomous, but also they engender that ability.”

The Argument from Egalitarian Perspective: Social Justice Implications of Genetic Enhancement and Sex Selection

Libertarian theories not only fail to recognize the impact of social factors on the formation of an individual’s autonomy, but they also fall short of addressing how the ‘right to reproduction’ can be successfully implemented in real life. The libertarian notion of ‘the right to reproduce’ incorporates two main aspects: *first*, the right to reproduce (naturally) and to not reproduce, and *second*, the right to reproduce with the help of assisted reproductive technologies, which also involves the freedom to select genetic characteristics of future offspring. Claiming that both aspects of reproduction should equally be protected by law, libertarians are confronted with socio-economic challenges that potentially limit wider access to reproductive technologies. Alongside the reproductive justice movement, more generalized justice considerations require tackling a two-dimensional problem: first, how should reproductive technologies be made accessible to all, if at all; and second, what will the potential outcomes of this access be?

Buchanan A. et.al. (2000) attempted to address the above-described issues based on the Rawlsian egalitarian and political theory of justice.⁴² The authors’ definition of autonomy derives from their own liberal individualistic positions. They give a full characterization of reproductive freedom in order to understand when this freedom comes into conflict with other values, such as the prevention of harm to others. Unlike most other scholars, they analyze the actions and practices that are ‘properly understood’ as components of reproductive freedom, rather than merely focusing on the use of the language regarding a moral right to reproductive freedom. According to

⁴² The Rawlsian premise that relates to the current discussion is that genetic improvement is a social responsibility. ‘It is in the interest of each to have greater natural assets...the parties want to insure for their descendants the best genetic endowment... [and] the pursuit of reasonable policies in this regard is something that earlier generations owe to later ones (Rawls, 1971).’

Buchanan, et al., reproductive freedom contains both negative and positive dimensions: for instance, they note that providing a woman with important genetic information is a positive component of reproductive freedom, whereas securing state non-interference to her decision-making process is the negative dimension of that freedom.

Buchanan, Brock, Daniels, & Wikler (2000) mention a wide range of components that are included in the definition of reproductive freedom. In particular it includes the choices of whether to procreate, with whom and by what means to procreate, when to procreate, how many children to have, whether to have biologically related children, and *most importantly what kind of children to have*.

Authors emphasize self-determination as the most important part of reproductive autonomy, stating that it involves both the “reflective, critical process of forming a personal conception of the good and the capacity to identify or decide upon the particular aims and ends” (Buchanan, Brock, Daniels, & Wikler, 2000). Having and rearing children is an essential part of a person’s self-determination, which can be limited when it comes to children’s fundamental rights.

When it comes to the authors’ perspective on genetic enhancement and sex selection, they mention two distinct perspectives from which these two can be viewed: *the public health model* and *the personal service model*. The public health model stresses the production of benefits and avoidance of harm for groups. The best way to analyze the existing options from this perspective is the cost-benefit calculation, which evaluates the policy based on the fact of whether it “produces the greatest balance of good over bad outcomes.” Accordingly, this approach does not reject the possibility of causing harm; rather, it acknowledges that harm is permissible if there is an aggregate of good over bad.

The second model, called the personal service model, takes the issues of genetic interventions out of the public domain and links them to private choice instead. This model is sometimes advocated for as a basis for individual autonomy. When a couple uses its genetic information to identify the sex of the fetus or an embryo, it is only their personal concern, not society’s. Buchanan, et al., find that the personal model enhances the autonomy only of those who are in a position to exercise choices concerning genetic interventions —not of those who may be affected by those choices. Thus, neither of these two models is favoured by the authors. Instead they support the claim that the choice of “a dominant cooperative framework for society should involve a balancing of the two morally legitimate interests of ‘inclusion’ and ‘maximizing’” (Kirby

& Sherwin, 2003). 'Inclusion sets a goal of enabling effective participation of individuals with certain physical or mental disabilities into society's cooperative scheme, whereas 'maximizing' may involve genetic enhancement of these individuals (Buchanan, Brock, Daniels, & Wikler, 2000).

Buchanan, et al., thus argue in favour of abolishing the ban on genetic enhancement, which, according to them, will only result in an expansion of individual autonomy. One way to do that is to blur the existing red line between medical and non-medical interventions. As discussed in the previous chapter, eliminating the distinction between therapeutic and non-therapeutic interventions can be not merely problematic but also sometimes impossible.

A more complex issue for the authors is assessing the role that society can claim in the parental reproductive decision-making process. They argue that society has good, if not conclusive, reasons to restrict the liberties of individuals if the exercise of those liberties undermines the public good. In this instance we can assume that the public good is the natural balance represented by the biologically determined sex ratio. The authors, however, claim that the natural biological balance creates a condition that is "advantageous to each in the sense that it makes it more likely that each individual can successfully marry and reproduce" (Buchanan, Brock, Daniels, & Wikler, 2000).

Although several studies underscore the potential risks associated with severely skewed sex ratios, it can be argued that not all cases of sex imbalances will directly affect someone's right to successful marriage or reproduction. Rather than assuming that the only negative outcome of sex selection is impeding individuals' right to get married and reproduce, the authors should have focused on the question of whether or not sex-selection is ethically dubious in case of the 'normal' or 'natural' biological balance of sex ratios. The authors later acknowledge that both genetic enhancements and non-medical sex selection, which has a resemblance to an enhancement, can have social effects that are "very harmful, sometimes unforeseen, and sometimes self-defeating." Authors fail to address these effects in more detail however, they do mention the possible restriction to the autonomy of children as a result of their parent's decisions.

To conclude, Buchanan, et al., do recognize that in a society with developed powers of genetic intervention, considerations for justice may arise with regard to the equal opportunity requirement. This will necessitate making the enhancement technologies available to all (for instance, through health care systems) and will pose additional challenges of preventing potential

harmful effects. However, as we have come to argue, these considerations and the notion of harm are often understood differently by existing theories, and it is not an easy task to consider all those perspectives at the same time.

Another famous opinion from the egalitarian perspective is brought forth by Harvard University Professor Michael Sandel, whose works and lectures on enhancement and justice have gained an excessive global attention. As Wilson notes, Sandel's works "used vivid examples from the real world to motivate the assessment of some of the key theories of justice that many philosophers have advanced" (Wilson, 2010).

For Sandel, respectful debates and reasoned argumentation are among the foundations of a good civic life, and this same line of thought can be traced even in his early works on the morality of enhancement. In 'The Case Against Perfection: Ethics in the Age of Genetic Engineering,' Sandel has attempted to make a generic case against enhancement, keeping in mind his own considerations of justice and how moral dilemmas need to be addressed in real life. He notes that "when science moves faster than moral understanding, as it does today, men and women struggle to articulate their unease." In liberal societies, individuals accordingly refer to concepts such as 'autonomy, fairness and individual rights.'

When discussing the morality of enhancement, Sandel heavily relies on the notion of a 'given world' to claim that we should preserve the 'giftedness' of human nature. For him, however the concept of 'giftedness' is associated not with a 'present' from God or a person, but rather with a gift from a philosophical sense of the 'given.' Referring to parental rights and duties toward their offspring, he notes that parents indeed have the duty and ambition to promote their child's excellence. Like Dworkin, he claims that there is nothing wrong in wanting to make the lives of future generations of humans better and longer, and fuller of talent and achievement. Nonetheless, he also attempts to distinguish between parents' plans for 'mastery' or 'dominion' over their children, and a simple desire for "restoring and preserving the natural human functions that constitute health." He states:

"To appreciate children as gifts is to accept them as they come, not as objects of our design, or products of our will, or instruments of our ambition. Parental love is not contingent on the talents and attributes the child happens to have ... [W]e do not choose our children. Their qualities are unpredictable, and even the most conscientious parents cannot be held

wholly responsible for the kind of child they have. That is why parenthood, more than other human relationships, teaches what the theologian William F. May calls an “openness to the unbidden”. However, to appreciate children as gifts or blessings does not mean to be passive in the face of an illness or disease. Healing a sick or injured child does not override her natural capacities but permits them to flourish. Although medical treatment intervenes in nature, it does so for the sake of health, and so does not represent a boundless bid for mastery and dominion.”

Sandel’s position on the ‘openness to the unbidden,’ and his distinction between interventions that ‘override’ natural capacities and those that permit natural capacities to ‘flourish,’ have been criticized by several authors. In many cases the main target of criticism is the examples brought forth by Sandel. For instance, Lewens (2009) argues that Sandel’s argumentation weakens when he considers the case of a parent who is dedicated to making her son into a world-leading tennis player, and the case of a parent who devotes herself to alleviating the effects of her daughter’s cystic fibrosis. The apparent moral distinction between the cases is an indifference of the first child to playing tennis —as a result of which he is unable to do activities that are more enjoyable to him, despite his parents’ firm conviction that they are acting in his best interests. By contrast, in the second example, it is unlikely that enhancement aimed at curing or preventing a serious disability or disease can be considered not to be in the best interests of the child.

Surely, Sandel’s arguments can be disputed on a case by case basis, keeping in mind that a child could also be very motivated to dedicate much time and efforts in becoming a prominent sportsman, and that his own wishes could be in line with those of his parents. Sandel claims that “parents bent on enhancing their children are more likely to overreach, to express and entrench attitudes at odds with the norm of unconditional love.” In his arguments against the genetic enhancement, Sandel refers quite often to Habermas to argue that genetic intervention for selecting or improving children is objectionable, as it violates liberal principles of autonomy and equality. Consequently, genetically programmed children cannot regard themselves as “the sole authors of their own life history.”⁴³ Moreover, he adds:

⁴³ Habermas’ position on genetic enhancement and misuse of new genetic technologies will be discussed in more detail in the next section of the work.

“In caring for the health of their children, parents do not cast themselves as designers or convert their children into products of their will or instruments of their ambition. The same cannot be said of parents who pay large sums to select the sex of their children (for non-medical reasons) or who aspire to bioengineer their child’s intellectual endowments or athletic prowess” (Sandel, 2007).

Sandel notes that there is nothing wrong with parents’ seeking the best for their children: the best education, healthcare, etc. Yet, at the same time, there is a growing tendency toward what he calls ‘hyper-parenting.’ The danger of using genetic technologies to create ‘designer babies’ is that it will inevitably increase the tendency of ‘hyper parents’ to see their children as instruments of their own ambition, objects of their manufacture, or commodities, rather than as independent persons.

The risk of undermining the unconditional love of parents for their children increases as they choose to achieve a specific hair colour, eye colour, height, sex, or other trivial features in their children. Equally important is the risk of turning parenting into an extension of the consumer society (Sandel, 2007). The greatest risk of danger is posed not by the genetic technologies alone, but rather by their availability in combination with social and cultural attitudes in an increasingly competitive society. In no way does the use of these technologies for medical purposes pose an ethical or moral dilemma for Sandel. Conversely, what he calls a liberal ‘free-market eugenics’ is capable of aggravating the inequality gap in a society, as the wealthy parents will be the ones able to genetically modify their children.

Sandel suggests that there should be regulations placed on the non-medical uses of genetic engineering, after they are passed through an explicit public debate. Advanced industrial democracies are required to regulate genetic technologies that lead to morally sensitive dilemmas, such as human reproductive cloning or non-medical sex selection.

Addressing the issue of non-medical sex selection, Sandel notes that it is probably the “most alluring non-medical use of bioengineering.” The practice of choosing the sex of children has existed long before any technology with many folk techniques being used as early as the days of Aristotle (Sandel, 2007). However, if those folk methods generally failed to give a positive result, today’s biomedical achievements can almost guarantee a desired outcome. He then proceeds to discuss currently available methods of sex selection — ranging from sperm sorting to the most commonly used method, abortion — by reflecting on ethical implications posed by each method.

In particular, he implies that sex-selective abortions, based on amniocentesis and ultrasound diagnostic results, are the least defensible ones as they face not only commonly known arguments of causing discrimination or skewed sex ratio, but also arguments from pro-life advocates. Other methods of selection, such as IVF/PGD pose ethical questions of moral and legal personhood. On the other hand, if selection of sex through sperm sorting is objectionable, it must be for reasons that go beyond debate regarding the moral status of the embryo. He then goes on to summarize:

“In each of these cases, something morally troubling persists. The trouble resides not only in the means but also in the ends being aimed at. It is commonly said that enhancement, cloning, and genetic engineering pose a threat to human dignity. This is true enough. But the challenge is to say how these practices diminish our humanity. What aspects of human freedom or human flourishing do they threaten?”

The Argument from the Child Autonomy Perspective: Right to an Open Future

A cluster of difficult and ethical questions arise when we discuss the limits of parental autonomy (authority), such as: do parents have a moral obligation to bring into life the best versions of their children? Or are they morally permitted to do so? Can parents strongly influence the future of their children by not vaccinating them or by forcing a certain type of education? Autonomy is certainly the most discussed concept when attempting to answer these questions. However, the existing theories mainly focus on rights (possibilities, choices...) of the parents' perspective as opposed to the child's interests. The other important theory that comes across is the discussion of autonomy from the child's rights (interests) perspective.⁴⁴

⁴⁴ In this section I use 'child autonomy' concept as an umbrella term to refer to rights and interests of both actual children and potential ones (embryonic and fetal states). My arguments here are predominantly based on Feinberg's concept of 'rights owned by children', which I believe also includes the prenatal stage of child development. Having said that, the section does not intend to enter into a lengthy discussion of the moral and legal status of either the embryo, nor the fetus.

A common way to address the ethical issues arising between parents and children's rights is by citing the child's 'right to an open future.' The theory of the 'right to an open future,' first developed by Joel Feinberg (1980), includes different parties against whom the rights could be held. Most components of the right are claims against the child's parents or the state, and some of them are against everyone (Millum, 2014). In this thesis I will address only the claims against the parents as decision-makers who have a potential to influence the future of the child.

In his original argument, Feinberg seems to derive the 'right to an open future' from the autonomy rights of adults. He distinguishes between three sorts of rights: *rights held by both adults and children* (like the right not to be physically abused), *rights held by autonomous adults* (for example the free exercise of religion) and *rights owned by children*. The latter is identified by Feinberg as rights-in-trust. He notes that:

“rights-in-trust look like adult autonomy rights ... except that the child cannot very well exercise his free choice until later when he is more fully formed and capable ... [they are therefore] rights that are to be *saved* for the child until he is an adult, but which can be violated 'in advance,' so to speak, before the child is even in a position to exercise them... His right while he is still a child is to have these future options kept open until he is a fully formed self-determining adult capable of deciding among them” (Feinberg J., 1980).

According to Feinberg, for each autonomy right of adults there is a corresponding right-in-trust of the children, who are not yet autonomous but will become as such. For these rights to be enacted, autonomous agents (children) need to have the capacity of autonomous action, which, by virtue of their age, they do not yet have. In this case the adults bear the full responsibility for the violation of the autonomy rights of children. These autonomy rights-in-trust constitute what he called the 'child's right to an open future'. These rights include “collective rights that are to be *saved* for the child until he is an adult, but which can be violated 'in advance,' so to speak, before the child is even in a position to exercise them.” Although these are the rights that the child will be able to enact when he grows up, they should be protected in advance. The strong interpretation of Feinberg's theory suggests that certain choices (even those in the far future) are to be protected by autonomy rights. In case this choice is protected — it may not be made by another person without having a strong justification. Therefore, without a very strong justification,

it is impermissible to make those protected choices on behalf of children who will be able to make those choices autonomously when they are adults.

Feinberg argues that the ‘right to an open future’ of the child, similar to adult autonomy, involves self-determination and self-fulfillment. He further elaborates that both self-determination and self-fulfillment are best achieved if parents do as little as possible to influence the direction of their child’s development (Millum, 2014).

Feinberg’s ‘right to an open future’ has strongly influenced the political ideas of Jürgen Habermas, who argues against permitting genetic enhancement practices (Habermas, 2003). Habermas’s ideas about the use of PGD can be formally divided into three groups: arguments related to liberal eugenics, arguments related to the concepts of natality and ‘being oneself,’ and arguments relating to the instrumentalization of species. While he develops his arguments in relation to non-therapeutic use of PGD technologies (liberal eugenics), I will attempt to argue that several of these arguments can be applied against sex selection.

In his work Habermas distinguishes between what he calls ‘*the grown*’ and ‘*the made*,’ ‘*the objective*’ and ‘*the subjective*’. The situation with the ‘programmed children,’⁴⁵ as he states, does not initially differ from that of the children who were naturally begotten. However, when the ‘programmed’ child grows up and develops his own life-project that is different from his parents’ intentions, cases of dissonant intentions occur. These cases, according to Habermas, “highlight that natural fate and socialization fate differ in a morally relevant aspect.” By drawing this distinction, he also develops the concept of ‘natality,’ which was first introduced by Hannah Arendt.⁴⁶ Arendt stresses that the human capability to perform actions has a very close “connection with the human condition of natality.” Accordingly, only birth has the potential for starting something entirely new. In this sense, acting is to be understood as “the actualization of the human condition of natality” (Arendt, 1958).

Referring to this position, Habermas understands birth as “a divide between nature and culture” (Henrich, 2011). He considers natality as a unique attribute of each person, which represents “a point of differentiation between the natural and socialization fates” (Pugh, 2015).

⁴⁵ Habermas uses the term ‘programmed’ to refer to children that were born with some eugenic enhancements of desirable traits.

⁴⁶ According to Arendt’s theory, each time a child is born, it’s not only another life history which begins, but a new one.

According to Habermas, “socialization processes proceed only by communicative action.” He claims that ‘the self’ is partly determined by the inter-subjective communication that occurs in one’s social environment from the moment of birth. This social part of one’s identity is an essential aspect of his autonomy as well. We must interact with others, since it is through intersubjective communication with others that we are able to conceive of ourselves as a subject — and in particular, refer to ourselves as subjects worthy of moral consideration (Pugh, 2015). He mentions:

“Only in the social network of legitimately regulated relations of mutual understanding (can human beings) develop and ...maintain a personal identity.”

Habermas’s argument on socialization in cases of genetically enhanced children only implicitly relates to children born as a result of sex selection. Similarly to Annette Baier, he points out that agents (children) are ‘second persons’ — that is, “persons are essentially successors, heirs to other persons who formed and cared for them” (Stoljar, 2015). In the case of genetic enhancement, “there is no communicative scope for the programmed child to be addressed as a second person and to be involved in a communication process” (Habermas, 2003). When parents make an irreversible choice to create a desired makeup of the genome of their child, it initiates a type of relationship between them, which jeopardizes a precondition for the moral self-understanding of autonomous actors. This leads to a dependence of one person upon the other, thus creating an asymmetric relationship between them. The child can only interpret, or appropriate, but not revise the paternalistic intention. According to Habermas, irreversible paternalism can be avoided if parents chose to communicatively mediate with their child by way of socializing practices (Habermas, 2003).

While Habermas comes up with the concept of ‘being oneself’ to refer to the self-acknowledgment /self-identification of genetically programmed children, the concept can be relevant in the case of sex selection as well. In particular, a child born (programmed/designed) with a specific sex cannot “experience his freedom with reference to something that is out of our disposal” — neither his own disposal as an identity, nor his parent’s. Birth, as a natural fact, should constitute a beginning we (humans) cannot control. By referring to Andreas Kohlmann, Habermas notes:

“Of course, parents have always been given to wishful thinking as to what is going to become of their offspring. Still, this is different from children being confronted with prefabricated visions to which, all in all, they owe their existence.”

The contingency of conception and birth brings forward Habermas’s main argument against genetic enhancements: he mentions that PGD should be used only in cases when the individual’s basic life opportunities might be violated by genetic illness. In all other cases the intervention should be prohibited to avoid instrumentalization of a person. The practice of framing a person in terms of another’s preferences is instrumentalizing, as it makes an individual the means to another’s desired end, thereby conditioning the worth of that person by that end (Arnason, 2014).

Habermas does not hold a clear position regarding sex selection. However, while responding to Dworkin, he observes:

“A person *is* a man or woman; *has* this or that gender – and could not assume the other gender without at the same time becoming another person. If identity cannot be maintained, then there is no fixed point of reference of *one and the same* person who could maintain her own continuity while looking back before the parental intervention, and who could *herself* oppose it.”

The child born as a result of sex selection can only wish to change the given sexual identity; however, he cannot change his entire identity back to a gender-neutral past (Habermas, 2003). The desire of adults to change their sexual identity (the case of dissonant intention)⁴⁷ is referred to him as ‘empty abstraction’, with rare exceptions of transgender people’s cases. However, Habermas observes that this argument is only *prima facie* plausible, as the case of sex selection is more complicated than it seems. He mentions:

“Because there is no moral reason for the preference of one gender over another, it should make no difference for the ‘affected’ person whether he or she has come into the world as a boy or a girl. But it does not follow from this that a genetic program which (rather like the creation of a Golem) stretches over the entire biological identity of a future person –

⁴⁷ Habermas refers to the term ‘dissonant intention’ to describe the situation when there is a lack of harmony between the intentions of the third party (parents) and the programmed person (child).

which would constitute the person ‘from the ground up’ – would for that reason be immune from all criticism.”

In case of sex selection, similarly, parental intervention into the ‘natural process’ of conception and delivery of a child can also lead to an asymmetric relationship between parents and child. Here the ‘socialization process’ of course cannot either determine or change the sex of the child. However, parents that are driven by the gender essentialism belief that certain gender attributes are attached only to a specific sex, and who prefer to have a specific ‘mother-daughter’ or ‘father-son’ bond, can choose to develop certain socializing practices with their child, irrespective of its gender.⁴⁸

In summary, according to Habermas, genetic intervention in an individual’s natural properties change the self-understanding of that individual, as well as his or her relation to the social environment. Both consequences result from the fact that the ‘natural’ properties of the altered individual are the expression of a foreign and subjective will. Habermas refers to this as “a specific type of paternalism” (Henrich, 2011), which alters the individual’s natural disposition. Similar to genetically enhanced children, children selected based on their sex alone are a result of “a special form of technical attitude, that does not abide by any natural dynamics, but approximates the grown and the made” (Habermas, 2003). In this realm, the provocative argument that sex selection constitutes interference into the selected child’s natural disposition, as Davis rightfully notes, can seem less obvious than the argument against genetic enhancements. However, it can be argued that parents who choose the sex of their offspring are more likely to have gender-specific expectations for those children than are parents who choose to accept the children whichever way they come.

⁴⁸ The issue of gender-specific expectations of parents will be addressed in more detail in Chapter 4.

Conclusions

Autonomy, choices and limits to reproductive liberty have been discussed in this chapter through the lenses of different ethical theories. These theories have been generally perceived as conflicting and critical of each other. However, paying close attention to the context and limitations of those concepts has led us to a conclusion that there has been an evolution with regard to how reproductive autonomy is defined nowadays. While in the past the scope of the term ‘reproductive autonomy’ sounded more comprehensive, its actual exercise was more limited. In practice it involved an enactment of few reproductive rights, such as the right to use contraception, the right to have access to abortions, or the right to avoid forced sterilization. Thus, reproductive freedom was mainly understood as a negative right, which enabled individuals to avoid any unjustified interference with their reproductive decision-making. This interpretation, which was mainly developed by liberal theorists, produced an abstract conception of autonomy, and therefore made its practical implementation more problematic in the realm of increasing ethical dilemmas associated with the use of new reproductive technologies.

The next, deeper understanding of reproductive autonomy was suggested by feminist scholars through the relational autonomy theory. Unlike the former theory, the relational autonomy perspective appeared to be more functional and attentive to the context. The contextual approach — the key feature of the theory — has argued that the capacity for autonomy enactment develops not as a result of abstracted isolation, but on the contrary as a result of complex social relationships. Particular importance was given to the concept of ‘oppression’ in framing the feminist model of autonomy. Nevertheless, feminist scholars do not and cannot provide a single and comprehensive ethical framework for defining ‘reproductive autonomy.’ Their emphasis on existing inequalities in society has led to a more global issue of reproductive justice, which focuses on “enabling conditions to realize these rights.” Arguing in favour of positive rights as a second important dimension of reproductive freedom has been a major achievement of relational autonomy theory.

Social justice considerations related to non-medical sex selection differ considerably with regard to various ethical perspectives. If the liberal scholars find the prohibition of sex selection an unjustified intervention into the reproductive freedom of parents, feminist scholars consider it as a necessary action to end or prevent long-lasting and culturally embedded discrimination against women. Other scholars, such as Buchanan, Sandel, et al., discussed sex selection through a broader

perspective of genetic enhancements, providing that the use of genetic technologies for non-therapeutic purposes — including for fetal sex selection — should be regulated in a way that prevents likely inequalities and corresponds with justice requirements.

In this chapter I have analyzed the main ethical theories related to the concept of reproductive autonomy and its practical implications. I argue that liberal perspectives of autonomy are overly abstract and cannot adequately point out the limits of reproductive freedom without paying attention to context. I argued that existing theories in bioethics do not provide sufficient indication to conclude that selecting the sex of the child falls within the reproductive autonomy of parents. Moreover, although the utilitarian principle of harm and well-being is the main applicable principle in the case of genetic enhancement, it cannot be so in the case of non-medical sex selection. While there are fundamental similarities between ethical considerations of the two cases, existing distinctions call for a more specific, individualized approach toward the case of sex selection.

Whether we speak about the interests of born, conceived or planned children, reproductive decision-making should be accompanied by a more thorough, justice-oriented approach. As Johnston and Zacharias (2017) note, a more comprehensive approach to reproductive autonomy “is vital to maintaining the integrity of our work and more importantly – to respecting persons.” An understanding of reproductive autonomy that is broader in its scope and more focused on context, is necessary for a future in which economic and social inequalities continue to form individual decisions. This future will inevitably be richer with new technologies, and as result new reproductive choices will also arise.

Chapter 5: Important Distinctions Between Sex and Gender: The Libertarian Argument on Family Balancing

Introduction

Discussions regarding non-medical sex selection inevitably lead to another central question. Is sex selection always based on sexist motivations? What are the main reasons why parents prefer one sex over another? In this chapter I aim to address these questions by discussing the role of two fundamental notions of sex and gender. Throughout the work I have chosen to use the term ‘sex’ rather than ‘gender’ selection. This is because the physical basis for selection is sex, rather than gender, which carries more psychological or emotional characteristics (Purdy, 2007).

The current chapter further discusses the libertarian perspective on non-medical sex selection. It address an important libertarian assumption that non-medical sex selection is based on sexism either solely or predominantly, in countries with widespread selective practices (Savulescu & Dahl, 2000; (Harris J. , 2007). Harris and Savulescu argue that the practice of sex selection can have other than discriminatory purposes, such as parental preferences to have a certain type of childrearing experience. Indeed, as Moazam rightly notes, one issue is assessing the practice of selection in countries where gender discrimination is behind the distorted sex-at-birth ratio, and another issue is evaluating if sexism plays a role for selecting the sex of offspring in Western countries (Moazam, 2004). This chapter aims to underscore several important problems with the above assumption. The first problem is the controversial construction of sex and gender as highlighted by many sociological and feminist studies. The review of these studies provides support for the argument that gender essentialism, and sexism in part, explain most of the selective cases in the Western world. The second problem is related to the concept of ‘family balancing’ that is strongly supported by libertarian theorists.

Non-medical sex selection has been continuously under close examination by feminist scholars. The feminist perspective on the issue is remarkably not as unanimous as it might be expected. While the feminists in countries with widespread selective practices somewhat agree that sex selection involves gross sexism against women and girls — and this conclusion is also affirmed by numerous statistics on sex ratios, or increased violence against women — Western

feminists see the issue in a more complex, polygonal way. On the one hand, most feminists identify sex selection in the Western world as generally sexist and based on existing inequalities in society, others believe that wanting a child of a specific sex (mostly girls) can be in line with feminist ideology or can be justified by the motive of having a balanced family.

It follows that the first group of feminists agree that in the majority of countries with skewed sex-at-birth ratios (China, India, and South Caucasus countries), selections are obviously based on a certain discrimination against females (Guilmoto, 2012, 2013). Sex selection in these countries occurs for number of reasons. Explanations for the rise in prenatal sex discrimination often revolve around contextual elements, such as dowry inflation in India, family planning regulations in China, Confucian patriarchal norms elsewhere in East Asia, or the economic crisis and conflict conditions in Eastern Europe and the South Caucasus — combined with the availability of new reproductive technologies in all the aforementioned countries (Guilmoto, 2012). In his long-term studies related to sex imbalances, famous French demographer Guilmoto acknowledges three main causes of sex selection trends. The first and most important cause of selection, according to him, is the prevailing son preference in the aforementioned societies. He states:

“Son preference constitutes the primary factor behind sex selection. It stems directly from the requirements of patrilineal and patrilocal household structures, in which girls and women have a marginal social, economic and symbolic position, and consequently enjoy fewer rights. Old age security is an additional factor as sons, rather than daughters, are expected to provide support to their parents throughout their life” (Guilmoto, 2012).

Even more than individual characteristics, the nature of family systems appears to play a major role in shaping gender preference. The ‘social pressure’ on women to have male children is a persistent cultural feature. Reasons behind this, which have been discussed in various international and local studies, include: the patrimonial kinship system, ensuring viability of the cultural tradition of sons living with parents, the need for a man as a workforce in poorly developed agricultural settings, and others. As Guilmoto notes, men in these countries are still considered to be the breadwinners and decision-makers, while women are expected to be the homemakers and to be fully responsible for childcare. Even access to paid employment does not free women from their numerous home duties, which they are expected to carry out alone (Guilmoto, 2013).

Son preference has been reflected in many age-old traditions. For instance, in some provinces of Armenia, rite implies participation of a boy in various stages of a traditional wedding ceremony. There was a tradition in Gegharkunik province, according to which when preparing the wedding gown “they deliberately brought in a boy from the outside, and when the bride first entered the home of her father-in-law, a baby boy was put in her lap so that they also could have a son. Or in the past they would put a boy on the horse that carried the bride. All these measures were eventually called to ensure fulfillment of the main task of the bride – having a son” (World Vision Armenia, 2017).

Similar traditions both in Armenia and elsewhere underscore the fact that parents most often suppose that men are more valuable than women. According to Laura Purdy, a paradigmatic case of sexism exists when women are considered to be born to serve men or to be less appreciated than them. Here, not only the intention but also the consequences are sexist (Purdy, 2007). In order to further demonstrate examples of sexism within society, Purdy asks a set of challenging questions. For instance, she questions if it is sexist to prefer boys when their average greater physical strength is crucial for the family’s survival — or, when the costs of raising a girl are discouraging because of social customs. Purdy argues that preferring boys in this case also constitutes sexism, as strength is a function of upbringing.

By changing such cultural customs, girls can be put on the same level playing field as boys. For instance, enforcing a ban on dowries in India, or recognizing daughters’ capacities of engaging in decision making about important family matters in China, and so on, would stop feeding justifications of son preference. However, society’s willingness to engage in these types of activities mostly depends upon recognizing women’s worth. Purdy notes that if women are otherwise considered ‘economic parasites’ because of being unable to contribute to the economy of the country, then the notion of work itself needs to be reconceptualized. In these countries the recognition of women’s unpaid work or contribution to the family and society (whether it includes childbearing or rearing, or housework) is only the first important step on the way to equality. In this regard the situation is quite different in most Western countries. However, here as well a person’s biology can be associated with his/her destiny, or a woman's role in society can be limited to her duties to bear and bring up a child.

Feminist Discourse on Sex and Gender: Sexism and Gender Essentialism Problems in Western Society

The practice of sex selection has resulted in endless feminist discourses over definitions of sex and gender. Bhatia notes that while new technologies used for sex selection might ignore the notion of sex being a preordained trait, they fail to challenge the “dominant construction of sex and gender as dualistic categories.” She argues that despite the fact that sex has increasingly turned into a biomedically alterable trait, gender has become more determined by the body geography (Bhatia, 2010). She states that even ‘consumers’ who are slightly inspired by feminist ideology, and who desire to rear strong and independent girls and women, “base conceptions and the possibility of girlhood within a rigidly defined unambiguous female body.” This results in a situation where sex selective practices reinforce sex and gender binaries, and represent a kind of body politics in which girlhood becomes geneticized. Support for her argument that sex selection practices reinforce the gender binary can be found throughout popular media and internet websites on the topic. These display that gender stereotypes lie behind parents’ motivations to choose the sex of their children. She notes:

“Furthermore, discourses around sex selection reinforce the idea of sex as a foundational category of gender, because the choice between blue and pink ultimately translates to the chromosomal options of either XX or XY. Consumers of second-generation sex-selection technologies not only seek to choose the sex of embryos, but they also do so on the basis of an imagined already gendered child. In effect, consumers choose the sex of babies as a guarantee of child gender, thereby re-affixing gender to sex. Sex selection seems to lock in or fuse societal or parental gender expectations and desires at the site of the sexed infant body, fetus, embryo, or sex chromosome of sorted sperm.”

Perhaps the simplest difference between notions of sex and gender is described by the World Health Organization’s reference to ‘gender’ as the socially constructed characteristics of women and men (such as norms, roles, and relationships of and between groups of women and men). Meanwhile, ‘sex’ refers to the biological differences between males and females, such as the genitalia and genetic differences. Sex is usually assigned when the child is born by checking

its genitals. Gender, however, develops much later, and the lore commonly accepted in social science literature is that in order to develop a coherent sense of gender identity and psychic health, children should know whether they are a girl or a boy at about age two or two and a half (Hubbard, 1996).

The binary paradigm embedded and mostly unquestioned in this developmental formulation from sex to gender is that biologically there are only two kinds of people —women and men — and therefore also only two sexes, which also correspond to appropriate genders of female and male. Thus, in most countries the assumption is that there are only two sexes, and this is associated with cultural and religious perceptions on sex and procreation (Hubbard, 1996). Specifically, these perceptions, according to Brownie, are behind sex selection practices, which are ultimately driven by *gender essentialism*. She notes that prospective parents interested in the sex of the fetus assume that gender differences are largely a product of biological differences — but no credible evidence has emerged to support this (Browne T., 2017 b).

In contrast, there is no shortage of reputable studies, which show the alarming power that our sexist culture has to create gender differences. According to Fine, ‘stereotype threat’ is an established phenomenon that demonstrates how awareness of a negative stereotype about a particular group causes those in the group to underperform (Fine, 2010). To prove her argument, she refers to a study conducted by the University of Padova, wherein women were divided into two groups and given a math test. Before the test, some women were told that “recent research has shown that there are clear differences in the scores obtained by men and women in logical-mathematical tasks,” while the other participants were told that there were no such differences. Before each of the problems in the test, the women were given a blank page on which they were asked to write down anything that popped into their heads. Women in the stereotype threat condition listed more than twice as many negative thoughts about the math test (for example, ‘these exercises are too difficult for me’). As this negativity built up, it increasingly interfered with performance. Although in the first half of the test, both groups scored on average around 70 percent, during the latter half of the exercise, the control group’s performance had slightly improved (to 81 percent) whereas the threat group’s performance had plummeted to 56 percent (Fine, 2010).

Certain gender expectations of parents, both in Western countries and elsewhere, are a common feature of sex selection. For example, a parent who wishes to use sex selection in order

to have a daughter is likely to be heavily invested in having a child who will conform to the gender roles, norms and stereotypes associated with being a female, such as: playing with dolls, dressing in pink frilly dresses, and going to ballet dances (Davis, 2009). The reasons (compiled from empirical studies in the West) why prospective parents prefer to select a child of certain sex, reveal that they are concerned not with the sex chromosomes, genitalia, or secondary sex characteristics of their future child, but rather with gender characteristics. These parents desire not a general but rather a certain type of parenting experience (e.g., ‘father-son bond’, or ‘mother-daughter bond’). In this specific parenting experience, they wish to share certain activities with their child, which they presume they can share more easily with one sex than another (e.g., interest in shopping, talking or dancing with a daughter, or playing sport or going fishing with a son) — or with a child who will have certain attributes, personality traits, or roles associated with one gender, such as child rearing or caregiving in the case of women, or taking over the family business or passing the family name in the case of men (Browne T. K., 2017 a). One recent study in the UK has shown a considerable amount of discussion in the forum about the reasons for wanting a particular sex. Participants of the discussions described girls as ‘wanted’ because they were ‘quiet’, ‘pretty’, and ‘special’, while the boys were considered to be ‘noisy’, ‘boisterous’, and ‘rough’. The gendered characteristics were given not only concerning participants’ future children but also their existing ones (Lowe, 2015).

Stereotype threats have been shown to produce gender differences in math tests and also in several other fields, such as chess, mental rotation tasks, working capacity, driving, and negotiations (Maass, 2008; Hyun, 2007; Schmader T., 2003).

Sex selection results in undermining both the child’s and parent’s autonomy, by enforcing the belief that the sexes are not interchangeable — there are certain differences between the sexes which either cannot, or should not, be changed — and that is permissible to act accordingly. It relies on the presumption that one cannot enjoy the same activities or have the same kind of relationship with a boy as with a girl (or vice versa) (Browne T. K., “How sex selection undermines reproductive autonomy,” 2017 a). The argument that sex selection can also undermine parental autonomy is a distinctive one, considering that the scholarship mostly addresses the issue of how the child’s autonomy is diminished as a result of selection (keeping in mind discussions around child’s right to an open future). In particular, when parents are given a chance to choose the sex of their future child, they also presume that the child will comply with their own expectations. A

father, who used to be a famous athlete, decides to have a son with the desire of passing on to him all his skills. By doing so he may also wish to keep his fame alive. However, his son could be born with certain psychological or physical conditions which would not allow him to become a professional athlete, or he may simply not wish to.

Similarly, when a mother wishes to have a daughter with the expectation of creating a special ‘mother-daughter’ bond, she already expects her to become her best friend, someone whom she can trust unconditionally or have a deeper connection with, and she assumes that the same sort of relationship is not possible to have with a son. Thus, they assume that certain types of attributes (in this case emotions or physical capacities) are shareable only with people of a specific gender. Nonetheless, it is indubitable that in case of the father, his daughter could become a famous athlete as well, having satisfied all preconditions for it — or in the other case, the daughter may not be interested in a ‘best-friend’ type of relationship with her mother because she might find people of her age more suitable for that role.

Similarly, in cases when parents choose to have a son whom they expect will support them financially, or emotionally, when they are old and vulnerable, they also presume that a daughter would not be capable of doing so for many different reasons. Paradoxically, a recent study carried out in retirement homes in Armenia showed that the majority of the old people who were left with no family care were refused it by their sons. It was a surprising finding because of the so-called ‘Armenian mentality’ that shames children for not taking care of old parents. Another reason is again linked to the patriarchal system of society in Armenia, which often results in sons inheriting most of the property from their parents.

Though gender essentialism is a fundamental element in case of sex selection, Browne notes it is possible that a parent’s choice of the child’s sex may not be based on it. Here she refers to Davis (2009), who states that one example of ‘gender essentialism’-free selection can be in the case of feminist parents, who for example might want to have a girl in order to groom her to be the first female president. However, she notes that such parents would likely be few, and no studies have been conducted to support the fact of their existence.

Another point is that if gender essentialism is arguably not always based on gender discrimination in the West, it is more related to discriminatory approaches in patriarchal countries. One example is that girls in latter countries are generally expected to choose a more ‘feminine’ profession (to get a degree in humanities, to become a makeup artist, or a hairdresser), even when

they show high performance in mathematics, physics, etc. While choosing their future path, their families and the society in general can exert pressure on them to reconsider their career plans. A very popular reason for this is the assumption that women do not need to ‘suffer’ because of choosing a more difficult career path, and all they do need is to get happily married and take care of their families. Other arguments may imply that a well-educated woman, who is competitive with her male classmates or colleagues, is too smart to be controlled by her husband, and this may lead to ‘problems’ in the family. On the other hand, boys that are interested in becoming ballet dancers, hairdressers, or makeup artists face harsher criticism: they are by default labeled as ‘less masculine’ by society.

To eradicate similar convictions, Purdy finds it necessary that women have 2 types of rights: rights shared with men in virtue of a common humanity, and rights in virtue of their differences from men. According to Purdy, the failure to recognize these rights is what constitutes sexism. She explains that on the basis of inadequate evidence, people tend to think there are morally relevant differences between men and women, and these are the convictions that later serve as a basis for developing sexist cultural traditions. For instance, many assume that gender traits are a necessary result of biological sex differences, or they are convinced that unlike men, women are especially gifted for child rearing. Another evident and harmful example of this kind of socialization is the widespread and unjustified assumption that women are intellectually different or less capable than men. Thus, in order for women and men to have equal rights, people must refrain from “applying generalizations about character and capacities, allegedly based on or associated with physical sex, to specific individuals.”

In order to comply with the requirements of the second group of rights, people should also be aware of the undeniable differences between men and women. A relevant example of this is pregnancy, which puts women at the greatest disadvantage. Instead of being seen as what Purdy calls “a socially necessary enterprise” that continues the human species, pregnancy is treated mostly as a ‘personal undertaking’, with all costs of pregnancy being borne by women. She notes that the overall equality in any society will increase if child rearing is accepted as a social responsibility.

The Case of LGBT and Intersex Children

As mentioned earlier, the perception of gender binary does not accurately reflect reality. Biologist Anna Fausto-Sterling has estimated that nearly 1 or 2 percent of children are born with mixed or ambiguous sex characteristics. These ambiguities can include hermaphroditism, which is when an infant is born with a single ovary or testis, or with a mix of both. In other cases, ambiguities can be observed when there is an inconsistency between chromosomal and genital sex. ‘Intersex’ is another umbrella term to refer to a range of different conditions that result in individuals being born with non-normative sexual morphologies (Kessler, 1998). According to Sparrow R. (“Gender Eugenics? The Ethics of PGD for Intersex Conditions,” 2013), some of these conditions are extremely rare, while others are merely very uncommon. Some individuals born intersex — for instance, those with a chromosomal sex different to their anatomical sex, or with some forms of mosaicism, or mild gonadal dysgenesis — may never become aware of their condition. In others cases, the anatomical variation may be obvious at birth or may become obvious during adolescence. In some cases, these conditions are life-threatening. A significant number of the causes of intersex conditions are heritable and are therefore, at least theoretically, amenable to detection through PGD (Amor, 2012).

How does this data relate to sex selective practices? Bhatia notes that the above findings of Anna Fausto-Sterling and Judith Butler have seriously questioned the sex/gender binary theories that early feminists have constructed to argue both against women’s oppression based on the biological destiny of females, and in favour of the social construction of gender. Similar to how LGBTI activism and movements have urged feminists to reconsider their primary distinction between sex and gender, practices of sex selection in the new genetic era are opening the path to ‘denaturalization’ of sex, which can potentially undermine the decades of feminist work insisting on the social construction of gender.

Seavilleklein and Sherwin point out that parents who engage in sex selection with certain gendered characteristics in mind may be especially intolerant of and disappointed with a child’s turning out to be lesbian or gay (Seavilleklein & Sherwin, 2007). The discussion that follows from this is related to the case of parents having LGBT children. Today, as mentioned earlier, the concept of sex is biological, whereas the meaning of gender refers to two concepts: ‘gender role,’

which refers to what one says or does to disclose one's status of boy/man or girl/woman, and 'gender identity,' which is the intimate sense of belonging to one's sex (Condat, 2018).

It is a well-known fact that the vast majority of sexual minority youth are born to heterosexual parents. Those parents may not uncommonly possess implicit or explicit negative attitudes toward homosexuality, and may expect their children to be heterosexual. Parents' reactions, when discovering that a child belongs to a sexual minority group, may include not only surprise but also negativity towards the child. Similarly, the vast majority of transgender and/or gender nonconforming youth are born to cisgender and/or gender conforming parents, who often possess negative attitudes toward those who violate societal expectations for gender identity, expression, and roles, and may expect their children to be cisgender and gender conforming. Negative responses from parents to LGBT youth may range from anxious concerns about the child's well-being and future, to abuse and even banishment of the child from the home (Katz-Wise, 2016). The range of possible parental responses to the child's sexual orientation, gender-related behavior, or identity — when these deviate from parental expectation — are linked to the child's attachment. The continued importance of parents in the lives of their children is indisputable — beginning at birth, extending through adolescence, and even into emerging adulthood; affecting all relationships beyond those with the parents, and determining the individual's own sense of self-worth. Attachment accounts for this vast reach and influence of parents (Katz-Wise, 2016). There are quite many studies about 'romantic attachment' and sexual identity development of LGBT people; however, less has been discussed about 'parent-child' attachment implications in the case of LGBT children.

Parents who learn about the sexual minority orientation of their children may have a variety of reactions, ranging from accepting to rejecting. Research in this area has produced mixed results regarding the positivity and negativity of parental reactions. In particular, a review of sexual minority literature finds that one-third of youth experience parental acceptance, another third experience parental rejection, and the remaining third do not disclose their sexual orientation even by their late teenage years and early twenties (Bowlby, 1988). The process of sexual orientation disclosure, as well as the acceptance or rejection of children with sexual minority orientation in families, may be shaped by the values of the family system. Parental responses to the disclosure of sexual orientation may be largely based on different factors like race, religion, and family

traditions. Depending on these factors, they may completely reject their children — thus severing the parent-child attachment — reject them temporarily, or accept them.

Results of several studies suggest that sexual minority individuals, as compared with heterosexual men and women, more frequently report parental maltreatment during childhood. (Corliss, 2002). Other studies that compared the likelihood of childhood abuse among sexual minorities vs sexual non-minorities found that sexual minority individuals were on average 3.8, 1.2, 1.7, and 2.4 times more likely to experience sexual abuse, parental physical abuse, assault at school, or missing school due to fear, respectively (Friedman M. S-A., 2011). The relevance of these findings to both child and parental reproductive autonomy cannot be underestimated. The psychological and physical abuse that sexual minority children face is unquestionably a matter of undermining child autonomy. However, when heterosexual parents give birth to child of a certain sex, they expect him or her to comply with all the gender associated characteristics (especially in cases when parents use sex selection). Their expectations can be severely undermined not only because of the mere fact that a child is born with gender nonconformity, but also because they have heavily invested in having a ‘desired type’ of child. When parents’ expectations for their child’s participation in creating a typical, nuclear family are challenged, a new conceptualization of ‘family’ may need to be formed, which the parents are not always ready to face: for example, when the parents and child may need to negotiate the stress of introducing a significant other into the family system (Brian L. B., 2008).

Additionally, parents may feel undermined when they are unable to turn to the community for support, due to the stigma associated with having an LGBT child — or, more simply, due to a dearth of families who are visibly experiencing the same stress. A family’s reaction to a disclosure of gender nonconformity from their children is explained in more detail by the ‘family stress theory’ (Brian L. B., 2008). It can be argued that parents, who reject their LGBT children and isolate them from their family, risk losing ‘parental control’ or autonomy. Interestingly, a recent study by Rosario (2015) showed a clear link between parent-child attachment and romantic attachment among LGBT adults. In particular, according to her, romantic attachment might be able to undo insensitive care by parents, resulting in an earned security in adulthood. In other words, children who lacked ‘traditional’ parent-child attachment in the past tend to become more attached to their romantic partners in the future.

To conclude, non-evidence-based perceptions on the gender binary —the belief that certain life plans and parenting goals can only be achieved with a child of a certain sex — are the major reason behind sex selection. In some instances, these beliefs can be expressed through cases of gross sexism, while in others they reflect certain gender stereotypes not directly associated with discriminatory attitudes towards one or the other gender. In the end, what sex selection achieves is that it undermines the reproductive autonomy in both outlined situations (Browne T. K., 2017 a). Thus, in the ‘option and decision’ sense, in order to be able to make an autonomous decision, correct information is necessary (Beauchamp & Childress, 1994). Not possessing correct information undermines the ultimate goal of sex selection, which is supposed to be the exercising of one’s reproductive autonomy. People lacking information relevant for a decision are less likely to decide on a course of action conducive to their goals (other than by pure chance) (Sjöstrand, 2013). Another example of how lack of information or incorrect information can undermine autonomy is provided by Gerald Dworkin, who notes:

“Deception is not a way of restricting liberty. The person who, to use Locke’s example, is put into a cell and convinced that all the doors are locked (when, in fact, one is left unlocked) is free to leave the cell. But because he cannot—given his information—avail himself of this opportunity, his ability to do what he wishes is limited. Self-determination can be limited in other ways than by interferences with liberty” (Dworkin G., 1988).

Similarly, when we support the belief that the sexes are not interchangeable — that one cannot enjoy the same activities or have the same relationship with a male, or a female, or an intersex child — the availability of sex selection provides a scientific and medical veneer to an unsubstantiated belief (Browne T. K., 2017).

Practicing sex selection only enhances gender essentialism within the society and can arguably limit individuals’ ability to enact their parenting goals. Although parents are rarely ‘free’ or capable of having the exact child-rearing experience they project, selection prevents them from accepting their children the way they come. If sex selection is otherwise allowed to be carried out, we would end up exercising only the narrow sense of our autonomy, which is based not on knowledge, but rather on ignorance. If parents realize that there is no sufficient evidence to imply that gender traits are necessarily biologically dependent on the physical sex, they might enjoy more freedom to have the sort of parenting experience they truly want.

The Issue of Family Balancing

One of the most debated reasons for sex selection is the desire for ‘family balancing’ or ‘gender variety’. Despite the fact that sex selection, in general, is the issue of fierce controversy among ethicists and policy-makers, family balancing arguably seems to justify selection of the fetus, or at least lead to an assumption that ‘family balancing’ is “supposedly the least objectionable non-medical reason for sex selection.” Yet, what exactly does ‘family balancing’ mean and how is it interpreted in bioethical and legal discourses?

Up until today, two issues follow from discussions on family balancing: how it can be defined, and if it leads to sexism (or gender essentialism). Both of these issues will be discussed below.

It should be mentioned that notions of ‘balanced’ and ‘imbalanced’ families are always subjective. Some parents will consider their offspring-group of two daughters and a son to be balanced, some will find their four sons or daughter to be a balanced set of siblings, while others would describe the same groups as imbalanced (Shahvisi, 2018). The same ‘subjectivity’ also justifies a variety of definitions of a ‘balanced family’ given by scholars. In particular, for some scholars ‘family balance’ implies that couples have an inherent right to an equal number of boys and girls; for others the concept of sex selection for ‘family balancing’ is based on a notion that a family is gender-balanced when it includes children of two genders, without further detailing the number and ratio of sexes of the children (Hvistendahl M., 2011; Hendl T., 2017).

According to Wilkinson (2010), the broadest definition says that an instance of (non-medical) sex selection is family balancing, if the family in question has more children of one sex than the other (say, four girls and three boys) and sex selects (in this case, a boy) with the aim of reducing or eliminating the sex differential. A similar target definition was proposed by Shahvisi (2018), who suggests that a family is ‘imbalanced’ if there are n number more siblings of one sex than the other, where $n > 1$ (which discounts the trivial imbalance of only children and odd-sized groups). This definition, however, was further detailed with two requirements. One is to make having *no existing children of the desired sex* a necessary condition; thus, selecting a girl would be family balancing if the family started off with *no* girls and three boys, but not if it started off with *one* girl and three boys. The other possible narrowing is to require a sex differential of two or more in the existing family; thus, selecting a girl where boys outnumber girls four-to-*two* would

be family balancing, but it would not be family balancing if boys outnumbered girls by only four-to-three (HFEA, 2002).

Arguments supporting non-medical sex selection for family balancing can be divided in two groups: those related to the ‘well-being’ of the parents and/or children, and those proving potential non-harmful effects of it.

Before proceeding to the discussions on the ‘well-being’ of parents/children as a result of family balancing, it is necessary to understand why an ‘imbalanced family’ is not considered to be *normal* and thereby can be subject to alteration.

It is widely known that males determine the sex of a baby depending on whether their sperm is carrying an X or Y chromosome. An X chromosome combines with the mother's X chromosome to make a baby girl (XX), and a Y chromosome will combine with the mother's X to make a boy (XY) (Newcastle University, 2008). Since the egg's surface is as receptive to X chromosome sperm cells as it is to Y chromosome sperm cells, the selection of chromosomes is essentially random. To put it differently, on a larger scale the conception of either a girl or a boy is random because it depends on the 50:50 chance offered by nature. However, some biologists choose to go further and try to explain what in particular cases determines the sex of the fetus. One study used a population genetic model to examine the hypothesis that sex determination is the result of an autosomal gene with polymorphic alleles, which affects the sex ratio of offspring through the male reproductive system (Gellatly, 2009). This study demonstrates two ways how an autosomal gene with polymorphic alleles can influence the selection of the sex:

“In the simplest case, there would be two polymorphic alleles occurring in the gene, an m allele coding for greater production of Y sperm and an f allele coding for greater production of X sperm. In a case where neither allele is dominant, mm males produce more Y sperm and have more sons, ff males produce more X sperm and have more daughters, whilst mf males produce equal X:Y sperm and will be equally likely to have sons or daughters. In other cases, the alleles might be dominant and recessive or there may be a range of alleles coding for different levels of X or Y sperm production, each with various dominances in the male phenotype” (Gellatly, 2009).

Without aiming to focus too much on biological details of sex-allocation, the study was cited to demonstrate that the sex of the fetus occurs based on *certain genetic processes*, which cannot be categorized as ‘normal’ or ‘abnormal’ because they are part of a ‘*natural selection.*’ Thus, in the case of families with a larger number of children of one sex and/or no children of the opposite, parents can feel ‘cheated by nature’ since they misunderstand (or cannot understand) how probability works. Considering the fact that parents on average have two or three offspring, the probability of having children with the same sex is between 25-50 percent (Shahvisi, 2018). Regardless of the fact of how many children of the same sex are born in a specific family, the overall population sex ratio will not be altered, because the perceived ‘imbalance’ will be an ‘issue’ only for that particular family. Here it is important to distinguish between the genetic mechanism described above, and facultative mechanisms of sex ratio control. Facultative measures are those physiological responses, in which the sex ratio of offspring is adjusted by a parent in response to the prevailing conditions, in order to enhance the probability of their offspring’s surviving and reproducing (Gellatly, 2009). Another facultative mechanism of offspring sex ‘adjustment’ can be the case of non-medical sex selection (including for the purpose of family balancing).

One assumption that can be derived from this discussion is that family balancing, if allowed to be legally practiced, has the potential of altering the sex-at-birth ratio of the population, which has been proven to cause multiple harmful results. There have been multiple attempts to prove that family balancing, as a distinctive type of sex selection, is easier to regulate by the state because the latter can impose certain requirements to be met by parents (e.g., having a minimum number of children of one sex and no child from the opposite, or choosing a specific selection tool, etc.).

One example of regulating family balancing is the Israeli policy on non-medical sex selection which will be discussed in full detail later in Chapter 7. However, let us analyze here one specific criterion of the policy. Israeli law requires that there should be “*real and imminent risk of significant damage to the mental health of one or both parents, or to the expected child, if the procedure is not conducted.*” This condition directly implies that birth of a child with a particular sex would be a stressor (a traumatic event) that can cause major mental damage to parents or the child itself (PTSP).⁴⁹

⁴⁹ PTSD is generally associated with stressful events that are negative in nature and are a result of preexisting psychiatric disorders, a family history of disorder, or a childhood trauma (Breslau, 2002).

Postpartum PTSP can in fact be traced among women giving birth; however, recent studies suggest that it affects only 3-4% of all women after birth. The numbers are significantly higher (from 15 to 19%) in cases involving high risk of medical complications or death of the child (Yildiz, Ayers, & Phillips, 2017; Grekin & O'Hara, 2014). Whereas most common stressors include depression during pregnancy, fear of childbirth, previous negative birth experiences, lack of support, and dissociation during birth (Ayers, Bond, Bertullies, & Wijma, 2016), other non-pregnancy or birth associated stress factors, such as are exposure to violence, abuse (sexual, physical, emotional, or neglect), or divorce/marital conflict, can also affect the trauma (Schneiderman, 2005; McNally, 2003).

Nevertheless, this work failed to find any scientific evidence that birth of a child with an undesired sex can be a determinant of PTSP. Even if these studies exist and an actual psychiatric disorder is proven, the number of these cases would be so low that it would raise questions as to whether the specific regulation was necessary to tackle the 'issue'. Moreover, as will be discussed later, some additional policy implementations may arise.

It should be noted that the committee tried to make a distinction between the categories of 'emotional' and 'mental health.' While the former reflects the applicants' emphatic expression of their desire for a child of the requested sex, the latter refers to a reported or diagnosed mental health disorder (Pessach N., 2014). In general, the main categories taken into consideration by the committee were emotional, medically-related, family/social pressure, religious, and mental health.

To sum up the argument, if there are indeed parents for whom the sex of the child matters so much as to cause mental health disorders, it would be more appropriate to offer them stress-related treatments. By offering the possibility of social sex selection, the guidelines suggest that the birth of a child of the other gender will make the difference. There is no evidence that this is true (Landau, 2008).

The criteria for proving potential mental damage is problematic from this perspective as well. It has been rightly noticed that it is demeaning to all children whose birth is considered to be potentially so damaging. Secondly, it is offensive to the applicants' existing and future children, for the application must be supported by the expert opinion of a psychologist who has found that the parent(s) will be severely harmed by the birth of a fifth child of the same sex (Zafran, 2008). However, let us suppose that the application is rejected and a child of the 'wrong' sex is born. Would not that child be injured simply by learning that the parents had foreseen that his or her

birth would be a source of serious mental harm to them? At the same time, let us assume that the parents are given permission and they successfully give birth to a child of their desired sex. Would all their children be given similar love and care as the expected child?

Many can remember the case of the Masterton family, a British couple, who had lost their 3-year-old daughter in a domestic accident. The couple, which already had 4 sons at that time, asked the HFEA for permission to undertake an IVF treatment and conceive a girl, since the woman was sterilized and couldn't conceive without using ART. HFEA, however, did not provide them with a hearing, justifying that the claims to get a license for IVF/PGD treatment could be done only based on application from a clinic. Unable to undertake the treatment in the UK, the couple traveled to Italy, where the procedure resulted in male embryo creation. The Mastertons were devastated that the treatment had not worked as they had hoped and decided to donate the embryo to an infertile couple. They justified their decision by the fact that their family was 'complete' before, but now they needed a female embryo to heal the empty space. Thus, they "decided not to let the male embryo perish in a dish, but to give it away to turn another couple into a family." However, in many other cases, when parents have more religious or traditional views and decide to give birth to the child, he or she may feel insufficiently valued, since he or she may be considered another 'failed attempt' of conceiving someone else.

Some parents can argue that family balancing will allow enjoying a 'different child-rearing experience,' different from the experience that they have already had with a child of a particular sex. It can be said that these parents are expecting a 'special,' 'yet unknown' or 'undiscovered' type of experience with children of opposite sex. In order to fulfill their desires of diversity, they expect this child to bring the sense of 'completeness' to their family. Thus, they assume that children of the same sex bring the same child-rearing experience or feelings. Besides, having children of different sexes also positively affects the existing children. This assumption has been largely successfully rejected. Almost all studies related to parent-child, as well as sibling, relations have revealed that same-sex sibling dyads are typically more prosocial and less aggressive than are mixed-sex dyads (Schicke, 1995; Dunn & Kendrick, 1981). This tendency can be noticed within interfamilial relations as well. Child development studies also demonstrate that behaviors and character traits amongst siblings are a complex function of many interacting features, within which age-spacing and birth-order are at least as determinative of sibling interactions as is sex (Minnett, 1983). These arguments come to reject the widely popular misconception that "children

learn important lessons from having siblings of the opposite gender” (Robertson, 2004) or that the presence of siblings of the other sex might promote mutual understanding among the children (Pennings, 1996).

In addition, one important critique of this assumption is that physiological attributes of the opposite sex do not necessarily lead to a sense of complete fulfillment; none of those attributes guarantee a different child-rearing experience, per se. In fact, parents who have two or more children (of same sex or different) in their family can attest that the child rearing process varies significantly with each child, regardless of whether they are of the same sex or opposite sexes. Moreover, children of different sexes can have similar interests and personalities (Shahvisi, 2018). If a varied rearing experience and a diverse household dynamic are the desired outcomes, then the parents might instead adopt differential parenting styles for each child, or try to support the creativity and intelligence of their children by enrolling them in various social activity groups (cultural, or sporting events, etc.)

To conclude, sex selection for family balancing is as controversial as other non-medical reasons for selection. Although it is often referred to as morally less objectionable than selection based on apparent gender discrimination, the ethical and legal issues it causes are not less important. It has been argued that sex selection for family balancing leads to over-medicalization, entrenches heteronormativity, and appropriates both affirmative action and reproductive autonomy (Shahvisi, 2018). The emphasis placed on 'family balancing' in Western arguments in support of sex selection techniques also suggests that what is desired by families is not primarily a child with different genitals but rather a child who conforms to the gender role opposite from that of the children they already have. Part of what is expected from sex selection techniques is a child that will conform to the assumed (and desired) gender roles (Seavilleklein & Sherwin, 2007).

Chapter 6: Regulation of Sex Selection in the USA: the ‘Liberal’ Model

Chapter Introduction and Methodology

Non-medical sex selection has been at the center of theoretical discussions in bioethics and beyond for quite some time. These discussions do not merely focus on conceptualization of reproductive autonomy in relation to parental choice, but also seek to reveal efficient regulations that can consider the complexity of the issue. As stated earlier, there are 2 main models of regulations: prohibitive, and ‘liberal’ (*laissez-faire*). A few other regulations are mixtures of the two models.

Keeping in mind the theoretical foundations of previous discussions, I intend to navigate to the second research question of the thesis, relating with the correct choice of policy regulation for NMSS. More specifically, the aim of this particular chapter is to address whether liberal regulations on NMSS are based on the premise that it is a part of reproductive autonomy. To answer this question, I will closely analyze the US regulatory framework from two main perspectives: *first*, through the narrative of abortion policies in the USA, and *second*, via the analysis of regulations on ART’s with a specific focus on their use for selective purposes. I have adopted this methodology considering the fact that NMSS is practiced both by ART’s and through abortions. Thus, addressing only one aspect of these practices would make the research incomplete.

In order to present the complexity of the US legal system in this field, I shall consider:

1. Federal regulations
2. State regulations
3. Medical guidelines/recommendations
4. General regulations of medical practice.

With regard to selective abortions, the analysis also includes relevant US Supreme court cases.

Introduction to the US Legal and Ethical Framework with Regard to Regulation of Reproductive Technologies

The analysis of US regulatory framework of ART contributes greatly to the legal and ethical discourse on the prohibition of sex selection. A recently published study has shown that the number of non-medical sex selection has dramatically increased in the past ten years. The conducted survey aimed to identify the percentage of US ART clinics offering non-medical sex selection via PGS/PGD. It included 493 ART clinics in the USA (including clinics in Puerto Rico), out of which 482 clinics (97.8%) responded to the survey (Capelouto S., 2017). The results of this survey indicate that the percentage of clinics offering PGS/PGD technology has increased by 17.9%, and the percentage of clinics offering non-medical sex selection has increased by 30.7% since last reported survey from 2006. The previous survey had shown that forty-two percent of clinics offering PGD had provided PGD for nonmedical sex selection, and that nearly half of these clinics (47%) had been willing to defer to parental preferences and provide PGD for nonmedical sex selection under all circumstances (Baruch S., 2008). Overall, this demonstrates that despite claims that sex selection is not widespread in United States, there is a growing tendency toward it.

The exact number of selective abortions in the United States is very difficult to determine, as women are not required to disclose their reasons for abortion (Cherry, 1995). However, there has been a major increase in the number of sex selective abortions in families of foreign-born Chinese, Indians, and Koreans in the USA. The sex-at-birth ratios of the oldest child in these families do not lead to a conclusion that sex selection has been commonly carried out (Almond & Edlund, 2008). Yet, in families with no previous son, the second or subsequent child was more often a male than should have been, as compared with naturally occurring ratios. In cases where the first and second child was a girl, the sex ratio for the subsequently born male children was 1.17 and 1.51. The same study demonstrated that the sex-at-birth ratio for White Americans during the same period was within a biologically normal range (Almond & Edlund, 2008).

Joseph Abrevaya, in an analogous study, mentions that despite the increase in the sex selection practice in the United States, it is unlikely that the practice can lead to a gender imbalance (Abrevaya, 2009). Such a statement is very often used by opponents of abortion bans to support their claim that bans are not necessary. This implies that the policy-makers should only be concerned with prenatal gender discrimination when the sex-at-birth ratios become extremely

skewed (comparable to ratios in Asia or the South Caucasus), and when discrimination “affects a certain threshold number of people.” The report from the Charlotte Lozier Institute brings an analogy with a situation of gender discrimination at work to argue that the number of affected by discrimination is not a relevant factor to justify any action to prohibiting it. In particular, it can be questioned whether a stand against discrimination would be justified if two or three women lost their jobs because of their sex, or whether anti-discrimination measures would be postponed until the problem had affected ‘enough women’ to be justified.

Another recent study, which involved interviewing both patients and doctors in order to better understand issues related to sex selection in the United States, confirmed that sex-selective abortion is indeed not uncommon in the country. Due to the absence of consistent policy on the matter, American physicians need to handle requests for sex selection on a case-by-case basis. Often, those physicians that are “ill-equipped to deal with the ethical dilemma” end up performing the abortion even when they are aware of the real reasons behind it (Puri, 2011). At the same time, studies demonstrating race-based selections have not yet been found.

Within this context, the efforts of Indiana’s lawmakers to provide protection to unborn children with ‘disfavoured characteristics’ are noteworthy. Nevertheless, a few important aspects should be considered before enacting (enforcing) similar restrictive policies on selective abortions. First, although abortions based on sex or disability of fetuses may *prima facie* have a lot in common, they pose different ethical and legal considerations.

From the legal perspective, limiting abortions of fetuses with or without disabilities (health issues) might not differ essentially, since in both cases the restrictions need only survive the constitutional scrutiny of *Roe* and *Casey*. However, from the moral point of view, some might argue that aborting a fetus with Down syndrome (or any other genetic disability) is more justifiable rather than aborting a healthy fetus based on characteristics like sex or race. Moreover, even the selection method (through abortion or via ART’s) maybe questionable for others in terms of its ethical and legal implications. Others may suggest that the choice of abortion in such cases is often based on unawareness about the prospect of the life of a child with such disabilities, despite the vast amount of information available regarding complex health care issues (such as cost of the medical care, or the need for permanent at-home supervision) associated with raising children with special needs. Abortion in similar cases is also purported to lead to increased discrimination towards people with disabilities in general (Steinbock, 2015).

Unlike that of the USA, the European approach toward the termination of pregnancies with disabled fetuses is more unanimous, from both legal and moral perspectives. Studies undertaken by Boyd, et al. (2008) demonstrated that sixty-eight percent of Down syndrome cases (range 0–95%) were detected prenatally, of which 88% resulted in termination of pregnancy — together with eighty-eight percent (range 25–94%) of detected cases of NTD, of which 88% resulted in termination. These rates are now higher than a decade ago, with rates in some countries like Iceland, Denmark, and the UK reaching 100%.⁵⁰

Currently, Indiana and Arizona are the only states that have laws prohibiting race-based abortions, while abortion bans because of a genetic anomaly (disability) of the fetus exist only in Indiana and North Dakota.⁵¹ Unlike that of other States, Indiana legislation equally targets cases of race, sex, and disability-based abortions. Petitioners vastly focus on justifying restrictive abortions of fetuses diagnosed with Down syndrome. They fear that with new technological developments such as non-invasive prenatal tests, the number of aborted fetuses with Down syndrome will dramatically rise (from the previously reported 30%) (De Graf, Buckley, & Skotko, 2015). A similar study was later carried out in Massachusetts, where the reduction of live births with DS is significantly higher than in the United States as a whole. In particular, as of 2008 Down syndrome related elective pregnancy terminations were resulting in a 49% reduction of live births (De Graf, Buckley, & Skotko, 2016).

In spite of this alarming increase in the unethical use of ART, the United States is infamous for its lack of normative guidance on the acceptable uses of most types of new genetic technologies (including PGD, NIPT, etc.), especially as compared to the comprehensive regulation of the same issue in the rest of the world. In the United States the regulation of reproductive (assisted) technologies is a matter of great debate. Some claim that the perceived notion of the USA’s lack of regulation is false, and that the reality is very far from the described *laissez faire* situation (Rebar & DeCherney, 2004; Adamson, 2002). In particular, Adamson (2002) points out that the current US framework has made significant progress in developing oversight of reproductive technologies. The progress has been achieved by adopting mandatory general regulations affecting ART⁵² at

⁵⁰ See Dave Maclean, “Iceland Close to Becoming First Country Where No Down Syndrome Children Are Born,” *Independent*, Aug. 16, 2017, <https://ind.pn/2OnbGis>.

⁵¹ <https://www.guttmacher.org/state-policy/explore/abortion-bans-cases-sex-or-race-selection-or-genetic-anomaly>

⁵² The Clinical Laboratory Improvement Amendments of 1988 (CLIA 88)

federal and state levels, mandatory clinical and non-medical ART regulations,⁵³ and laboratory and research regulations (including genetic testing and treatment, etc.). In addition, many professional and ethical guidelines have been developed to address issues like stem cell research, gamete/oocyte donation, surrogacy, and sex selection, etc.⁵⁴ This has led the American Society for Reproductive Medicine to consistently assert that this field is one of most highly regulated of all medical practices in the United States, and that further regulations are almost not needed. Nevertheless, most of these guidelines mainly voluntarily recommend, rather than enforce, good practice.

Notwithstanding the existence of several Federal and a few State mandatory regulations in the field, it has been argued that the regulatory structure in the USA is not useful for ensuring the *ethical* and *safe* conduct of ART services. Some examples of unethical or unsafe ART services in practice include reducing multiple births, registries of gamete donors, and the use of ART technologies for sex selection purposes, etc. (Frith & Blyth, 2014). The unethical use of reproductive technologies has generated debates on the need to have an oversight agency (similar to HFEA in the U.K.) that would supervise the enforcement of mandatory guidelines and rules for good practice.

Federal and State Laws on Sex Selection

As outlined in previous chapters, sex selection for non-medical reasons is not prohibited by US federal law and is a matter of state law regulation. Only 8 states currently have abortion bans for sex selection reasons, and in 2 other states the enforcement of the relevant policies is enjoined by the court (see table below).

⁵³ Fertility Clinic Success Rate and Certification Act of 1992 (FCSRCA),

⁵⁴ Guidelines and Opinions of The American Society of Reproductive Medicine (ASRM), the Society for Assisted Reproductive Technology (SART), the ASRM Ethics Committee Reports and Practice Committee.

Table 1. *Abortion Bans in Cases of Sex and Race Selection*⁵⁵

Arizona	X	X
Arkansas	X	-
Illinois	□	-
Indiana	□	X
Kansas	X	-
North Carolina	X	-
North Dakota	X	-
Oklahoma	X	-
Pennsylvania	X	-
South Dakota	X	-
Total	8	2

□ *In Illinois and Indiana enforcement of abortion bans is permanently enjoined by court order.*

These policies occasionally regulate abortions based both on the sex and race of an unborn child.⁵⁶ They do not ban other sex selection methods, such as sperm sorting or preimplantation genetic diagnostics; the focus of the laws is the abortion itself.

I find it important to address these policies more in depth, by analyzing the Arkansas Sex Discrimination Abortion Prohibition Act (HB 1434), which is the latest adopted policy banning sex selective abortions.⁵⁷ The analysis of this act greatly contributes to the discussion on the unconstitutionality of selective abortion bans.

⁵⁵ The Guttmacher Institute report, <https://www.guttmacher.org/state-policy/explore/abortion-bans-cases-sex-or-race-selection-or-genetic-anomaly>

⁵⁶ The Susan B. Anthony and Frederick Douglass Prenatal Nondiscrimination Act of 2011 (Arizona PRENDA Act) Arizona House Bill 2443 was adopted to revise the state Criminal Code with regard to family offenses, and it bans both sex and race-based abortions. In particular, it states that the person who knowingly performs an abortion that is sought based on sex or race of the unborn child, who uses force or the threat of force to intentionally injure or intimidate any person for the purpose of coercing sex or race-based abortion, or who solicits or accepts money to finance such an abortion, is guilty of a felony. Meanwhile a physician, physician's assistant, nurse, counselor, or other medical or mental health professional who knowingly does not report known violations of this section to appropriate law enforcement authorities shall be subject to a civil fine of not more than ten thousand dollars. A woman on whom a sex or race selection abortion is performed is not subject to criminal and civil liability for any violation of this Act or for a conspiracy to violate it.

⁵⁷ Full name: “An act to create the sex discrimination by abortion prohibition act; and for other purposes.”

The Act came into effect on January 1, 2018, and is an amendment to Chapter 16 on Reproductive Health of the Arkansas Code, Title 20. It refers to sex selective abortions as an example of gender discrimination, and cites the UN General Assembly to declare sex-selection as a crime against women. The Act considers the prohibition of sex selective abortion from rather different perspectives. First, with regard to maternal health it emphasizes the fact that “abortion risks to maternal health increases as gestation increases.” Because abortions performed solely based on the sex of a child are generally performed later in pregnancy, women undergoing these abortions are unnecessarily exposed to increased health risks, including a higher risk of death. The purpose of the Act, as stated, is a) the ban on abortions performed for the reason of sex selection, b) the protection of women from risks inherent in late term abortions.

The act prohibits a physician or other person from intentionally performing or attempting to perform an abortion, given the knowledge that the pregnant woman is seeking the abortion on the basis of the sex of the unborn child. It also requires a physician (other than the person performing the abortion) to ask a pregnant woman in advance if she knows the sex of the fetus. In the case that the woman knows the sex of the unborn child, she will then be informed about the prohibition of abortion as a method of sex selection. Before performing the abortion, a physician has to obtain the medical records of the pregnant woman relating to her entire pregnancy history. The Act also stipulates that the norms related to the ban on sex selection will remain applicable in the period of pregnancy following the viability; however, they can be held *invalid* in cases when the period of pregnancy is prior to viability of the fetus. The viability is defined in the Act “as the state of fetal development when, in the judgment of the physician based on the particular facts of the case before him or her and in light of the most advanced medical technology and information available to him or her, there is a reasonable likelihood of sustained survival of the unborn child outside the body of the mother, with or without artificial life support.” It can be noticed that the Act has a broad discretionary framework in terms of its enforceability. It not only fails to justify the need for distinction between pre- and post-viability of the fetus in terms of sex selective abortions, but also fails to prescribe legal consequences for the woman that undertakes the abortion.

The Act only imposes both criminal and civil sanctions (professional sanctions) on the persons performing sex selective abortions. Undoubtedly, the key aspect of the Act is the exclusion of liability for a woman who undergoes prohibited abortion. In particular, it is stated that “a woman

who receives or attempts to receive an abortion in violation of this subchapter shall not be prosecuted under this subchapter for conspiracy to violate this subchapter or otherwise be held criminally or civilly liable for any violation.” She *also will not be prosecuted* for conspiracy to violate this Act or otherwise be held criminally or civilly liable for any violation. Moreover, a woman who receives an abortion in violation of this subchapter *without being informed of the prohibition of abortion as a method of sex selection for children* — or the parent or legal guardian of the woman if the woman is a minor who is not emancipated, or the legal guardian of the woman if the woman has been adjudicated incompetent — may commence a civil action for any reckless violation of this subchapter and may seek both actual and punitive damages. The exclusion of the liability of women is a ‘legislative trick’ to make the law pass constitutional scrutiny in case it is disputed in court. While the Act acknowledges the need to protect unborn children from gender-biased discrimination and the following abortions, it also aims to protect women’s fundamental right to access abortions.

Apart from State enacted and proposed laws on abortions bans, there have also been multiple attempts to prohibit abortions on the federal level. For the past decade, several bills were introduced to the US Congress in order to address the alarming number of selective abortions. One such example is the Prenatal Nondiscrimination Act (PRENDA) of 2017. Similarly to the state statutes, the bill prohibits a) performing an abortion while knowing that the abortion is sought based on the sex, gender, colour, or race of the child, or the race of a parent, and 2) using force or the threat of force to intentionally injure or intimidate any person for the purpose of coercing a sex-selection or race-selection abortion. In addition, acknowledging the fact that the lack of regulations makes the country a destination for reproductive tourism for patients from countries with more restrictive laws, the bill also bans soliciting and accepting funds for the performance of such an abortion, or for transporting a woman into the United States or across a state line for the purpose of obtaining such an abortion. With regard to the liability of women, the Federal bill has a similar approach to the State enacted statutes in that it excludes women from both criminal and civil liability.

In the following sections of the Chapter, I will address more in depth the complex US regulatory framework for sex selection, which includes the historic shift to abortion laws and the landmark cases that shaped the current abortion regulation. I will attempt to argue that the ban on sex selective abortion is not *unconstitutional* and does not violate the *First Amendment* ‘right to

privacy’ or the *Fourteenth Amendment Due Process clause*, and therefore, it can withstand constitutional scrutiny.

Sex Selection Abortion Bans and ‘Right to Privacy’

Lack of federal law prohibitions on sex selective abortions have most often been associated with the ‘right of privacy’ reinforced in the *Roe v Wade* landmark case, which also granted women the fundamental constitutional right for abortions free from state interference. Before that, the right to privacy was first embraced by the Supreme Court in *Griswold v. Connecticut* (1965),⁵⁸ in which the Court found that the Connecticut statute criminalizing the use of contraceptives violated the constitutional right to privacy that married couples had in sexual relations. Later, in 1972, the Court found that even outside of marriage, a person had a “right to privacy... to be free from unwarranted governmental intrusion into matters so fundamentally affecting a person as the decision to bear or beget a child” (*Eisenstadt v. Baird*, 1972).⁵⁹ Thus, privacy as a constitutional right became a one-word description of the liberty to make decisions regarding marriage, procreation, contraception, sterilization, abortion, family relationships, child rearing, and sexual relationships free of governmental interference (George & Annas, 2007).

The right to privacy, which later would gain a central role among reproductive rights, was derived by the Supreme Court from the Fourteenth Amendment to the US Constitution. The due process clause of the Amendment states: “... no State shall make or enforce any law which shall

⁵⁸ In *Griswold v. Connecticut*, 381 U.S. 479 (1965), the Executive Director of the Planned Parenthood League of Connecticut and its licensed physician, who were the appellants in this case, were sentenced as accessories for giving married persons information and medical advice on how to prevent conception. After the examination they also prescribed a contraceptive device or material for the wife’s use. At that time Connecticut law prohibited use of any drugs or articles to prevent contraception. Based on the appellants’ claim that the law violated their Fourteenth Amendment Rights, the Supreme Court revised the rulings of lower courts. It held that the law at stake violated the ‘right to marital privacy’ and could not be implemented against married couples.

⁵⁹ In *Eisenstadt v. Baird*, 405 U.S. 438 (1972), the Supreme Court extended the logic of *Griswold v. Connecticut*. It held that unmarried couples also have the right to use contraception, based on the Equal Protection Clause of the Fourteenth Amendment

abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.” Due process under the Fourteenth Amendment can be broken down into procedural and substantive categories. The substantive due process is applied to evaluate whether a law can be applied by States at all, irrespective of the procedure followed. It generally applies to specific fields like the liberty of contract and privacy, which have been often labeled as ‘fundamental rights,’ ‘privacy rights,’ or ‘liberty rights.’

The ‘fundamental rights’ or ‘non-economic’ substantive due process rights involve rights so fundamental that courts must subject to close scrutiny any legislation possibly violating them. Some noneconomic substantive due process rights, such as the right of a woman to have an abortion, still remain very controversial; while others, such as the Bill of Rights, based again on noneconomic substantive due process, are apparently non-controversial (*Roe v. Wade*, 1973). The right to privacy was one of the earliest formulations of noneconomic substantive due process that was first proposed by Samuel Warren and Louis Brandeis in an 1890 Harvard Law Review Article. The concept was used to unify different common law protections of the ‘right to be left alone’ (Warren & Brandeis, 1890).

In the beginning the ‘right to privacy’ involved relatively narrow noneconomic interests’ protection. However, within the next few decades, it started to relate not only to “mere freedom from bodily restraint, but also the right of the individual to contract, to engage in any of the common occupations of life, to acquire useful knowledge, to marry, establish a home and bring up children, to worship God according to the dictates of his own conscience, and generally to enjoy those privileges long recognized at common law as essential to the orderly pursuit of happiness by free men” (*Meyer v. Nebraska*, 1923). Initially, the Supreme Court did not deliver clear judgments about the violations of ‘fundamental freedoms,’ and such concepts as ‘the right to privacy’ had little impact on US legislation. In *Loving v. Virginia*, the Court found unconstitutional the statutory ban on interracial marriages, claiming that the freedom to marry was part of personal freedom, and that discrimination based on race was ‘unsupportable’ (*Loving v. Virginia*, 1967). Later, in the aforementioned *Griswold v. Connecticut*, the Court set the standard of balancing personal privacy against unnecessary government intrusion. The ‘lawful’ intrusion standard was further complicated by introducing the ‘undue burden’ standard.

By the time the *Roe v. Wade* opinion was delivered, the Court had already addressed the right to privacy in terms of reproduction; nevertheless, it was *Roe* that established “a right of personal privacy by the Due Process Clause that includes the right of a woman to determine whether or not to bear a child.” *Roe v. Wade*, which either abolished or revised most of the abortion laws at the time they were delivered, clearly stated that “the Fourteenth Amendment’s concept of personal liberty and restrictions upon state action” includes “a right of personal privacy, or a guarantee of certain areas or zones of privacy.” Although the Court stated that this right to privacy was ‘fundamental,’ it made sure that legitimate state interests were also protected by the Due Process Clause. This was done by implementing the ‘compelling interest standard’ that will be addressed at length further in this Chapter.

The American Legal History and Case Law with regards to the Status of the Unborn Children

Four decades after *Roe v. Wade*, abortion still remains a highly controversial topic that places “a woman’s right to choose against a fetal claim to life” (McCurdy, 2016). Not only does abortion itself remain a focus of political debates in the USA, it also appears to be a relevant factor in regulating selective abortions. There have been many attempts to justify the lack of legal restrictions on sex selection by claiming the unconstitutionality of abortion bans in general. Accordingly, any type of legislative ‘intervention’ into abortion decision-making process in the US is a sensitive action that draws much public attention.

Before proceeding to discussing the constitutionality of sex selection bans in the USA, it is important to briefly address the history of abortion legalization and the moral status of the embryo before the infamous *Roe v. Wade* case. In *Roe*, the Court established the right to access abortions, with the help of Justice Blackmun’s leading opinion. Later, in *Webster v. Reproductive Health Services*, an amicus curiae Brief was filed by 281 historians that stated *Roe* to be “consistent with most Noble and enduring understanding of American history and traditions” (*Webster v. Reproductive Health Services*, 1989). The number of historians that signed the Brief later reached 400. As mentioned by Keown (2006) three central arguments of the Brief were;

1. At the time the Federal Constitution was adopted, abortion was already known and not illegal.
2. 19th century abortion restrictions sought to promote objectives that are nowadays either inapplicable or constitutionally impermissible.
3. The moral value attached to the fetus became a central issue in American culture and law only in the late 20th century, when traditional justifications for restricting access to abortion became culturally anachronistic or constitutionally impermissible (Keown, 2006).

These arguments have been criticized by several scholars, who claim that the Court and Justice Blackmun have misinterpreted US history, the traditions of abortions, and the justifications behind abortion bans. In particular, some refer to the history of Anglo-American common law which “consistently prohibited abortion at least for ‘quickening’ by the early 19th century” (Keown, 2006).⁶⁰ Abortions carried out after fetal formation, generally 40 days after conception, were considered homicides. A similar approach in common law existed also in the mid-17th century. What is more important, Keown argues that the main purpose of restrictive regulations of abortion was *the protection of the unborn child*, which is obvious from “the nature and wording of the statutory provisions.” Moreover, he states, like many others (Glanville, 1958; Dworkin R., 1993),⁶¹ that US legislation in the relevant field was “dramatically influenced by the emerging medical profession.” Findings of the medical profession at that time led to the conclusion that human life begins at fertilization; thus, the ‘quickening’ argument became soon irrelevant in debates around abortion. This eventually led to a complete ban on abortion. This fact was acknowledged also by Blackmun, who mentioned that the “attitude of the medical profession may have played a significant role in the enactment of stringent criminal abortion legislation during the

⁶⁰ ‘Quickening’ is described as a process of formulation of the fetus from 12th to 14th weeks of pregnancy, when mother is first perceived to feel the fetal movement. However, according to him, common law punished abortion after fetal formation even earlier, in mid-13th century.

⁶¹ In his book *The Great Abortion Debate*, 36(11) N.Y. Rev. OF Books (1989), Dworkin mentions that ‘The best historical evidence shows ... that even anti-abortion laws, which were not prevalent in the United States before the middle of the nineteenth-century, were adopted to protect the health of the mother and the privileges of the medical profession, not out of any recognition of a fetus's rights.’

late 19th century.” However, he also noted that at the time of the adoption of the US Constitution, and during most of the 19th century, abortion was more favoured than before *Roe*.

When discussing the legislative purposes of abortion bans, Blackmun rejected those related to *protection of the fetus*. He mentions that the statutes were aimed rather at protecting *the life and health of the women*, due to the high risks involved in late-term abortions (*Roe v. Wade*, 1973). The state courts, therefore, interpreted the 19th and 20th century laws as focusing on “the State’s interest in protecting the woman’s health rather than in preserving the embryo and fetus” (Means, 1971). The only case cited by the Court in *Roe as* supporting the argument that “every criminal abortion statute enacted in 19th century United States was designed solely to protect pregnant women” was *State v. Murphy* (1858). Yet the Court failed to mention at least forty-four appellate court decisions from thirty-two states, which stated that one purpose of the state’s statutory criminal abortion scheme was protection of conceived, unborn human life (Rafferty, 1993). Moreover, even the *State v. Murphy case* itself cannot fully reject the fact that the purpose of the disputed New Jersey’s 1849 abortion statute was not the protection of the unborn life. The Statute, according to Rafferty, simply combined two different (even in a way competing) subjects of criminal law under one penal statute.

The legislative purpose of protecting woman’s life and health is purported to explain why in many states the pregnant woman could not be prosecuted for ‘self-abortion’ or cooperating in an abortion performed by others. As demonstrated earlier in the chapter, this approach has been adopted by the current state laws and federal law drafts on sex selective abortion bans, which exclude the liability of the woman on whom the abortion is performed. However, those several 19th century statutes, under which a woman undertaking an abortion could not be liable for violating abortion statute, do not prove that *only the* woman’s life and health are worth protecting.

Contrary to the Court’s perspective in *Roe*, those statutes were equally designed to protect unborn children. Rafferty explains that because of the unique nature of the abortion crime, which poses practical difficulties for law enforcement, different methods were necessary to prevent the crime. In particular, it should be obvious that everyone involved in the abortion process will try to hide information from the police, and surely there is no ‘victim’ for whom to file a complaint. Thus, when a woman is not a suspect (a principal or accessory) of the crime, her role in the crime investigation will remain as that of a witness. According to him, this would have been significant

for a successful prosecution, as the then-existing standard jury instruction required that no defendant be found guilty based only on the testimony of an accomplice (Rafferty, 1993).

Rafferty also states that “if one examines the court decisions in which it was held that the woman on whom the statutory abortion offense was committed is not an accomplice (because she is not liable to prosecution as a principal or accessory), one will see that the accomplice issue is uniformly presented in the context of whether the trial court erred in failing to instruct the jury to the following effect: ‘If you find that the woman on whom the abortion was performed is an accomplice, then you should be reluctant to (or cannot, as the case may be) find the defendant guilty solely upon her testimony’” (King v. Scokett , 1908).

It follows that the existence of the exemption at that time did not mean that a pregnant woman could not be held liable at all, as she could still be prosecuted under the “state’s received common law.” Moreover, she could alternatively be liable for conspiracy to violate the abortion statute. This contradicts the formulation of the current statutes, which clearly mention that the woman who performs a selective abortion *will also not be prosecuted* for conspiracy to violate the Act, or be otherwise held criminally or civilly liable for any violation. The question that arises is how *otherwise* the Act is to be enforced if the woman knowingly and willingly agrees with the physician to have the abortion carried out. This results in a conclusion that the currently adopted statutes have misinterpreted most of the abortion case law that the US Supreme Court had held before *Roe*.

The second important claim of the Brief was that “the moral value attached to the fetus became a central issue in American culture and law only in the late twentieth century, when traditional justifications for restriction of access to abortion became culturally anachronistic or constitutionally impermissible.” This has been a highly disputed claim among American legal scholars, who argue that there had been “abundant evidence of concern for the unborn in the doctors’” campaign for tighter laws against abortion, in the judicial interpretation of resulting legislation and in the wording of the legislation.’ Despite this, the *Roe* court failed to acknowledge that “the primary purpose of the legislation before *Roe* was the protection of the unborn life” (Rafferty, 1993). In particular, Justice Blackmun famously stated “that no case could be cited which holds that a fetus is a person within the meaning of the Fourteenth Amendment.” Here, it is important to distinguish between the ‘moral’ status of the unborn child and its ‘legal’ one. These two terms have often been confused or misinterpreted by legal scholars, including Justice

Blackmun, who paid little attention to the ‘legal’ meaning of the term ‘person,’ as opposed to its theological, philosophical, or medical meanings (Roden, 2010). He stated in *Roe* that “the Constitution did not define ‘person’ in so many words,” but almost in all cases where it did, the word was applied to postnatal cases. Moreover, he stated that the word did not have any prenatal application.⁶² This comes into contradiction, for instance, with the case of the *Lessee of Ashton v. Ashton*, where the Pennsylvania Supreme Court defended the property rights of a posthumous child by creating a legal duty of other parties to comply with the property interest of the unborn child. The unborn child was defined in this opinion as a ‘life in being’ (*Lessee of Ashton v. Ashton*, 1760).

US Landmark Cases on Abortion: Roe and Casey Constitutionality Test for Abortion Limitations

Roe v. Wade is generally considered to be the constitutional norm for abortion regulations (bans). However, another Supreme Court case that sets up a definitive standard for testing the constitutionality of abortion restrictions is *Planned Parenthood of Southeastern Pa. v Casey* (hereinafter *Casey*). In *Casey*, the constitutionality of several provisions of the Pennsylvania Abortion Act of 1982 was challenged under *Roe*. In short, these provisions required a woman seeking abortion to give an informed consent before undertaking the procedure, and to provide a spousal notice that she had informed her husband about undergoing the procedure (with certain exceptions). In case of minors, the Act required obtaining the informed consent of one of the parents or a guardian prior to the abortion. Other requirements related to the definition of ‘medical emergency’ in cases of abortion, and in reporting and record keeping in facilities providing abortion services.

The Court in *Casey* restated the essential holding of *Roe*, which is the right to terminate the pregnancy before viability. It also gave the states the right to “regulate, and even proscribe, abortion *after viability* except where it is necessary ...for the preservation of the life or the health of the mother.” Thus, it replaced the *Roe* trimester framework in favour of a viability analysis, and

⁶² The most important reference Justice Blackmun mentions is Section 1 of the Fourteenth Amendment, where the term ‘person’ is defined as ‘persons born or naturalized in the United States’.

the strict scrutiny test in favour of an ‘undue burden’ standard, which was previously developed by O'Connor in her dissent in *Akron v. Akron Center for Reproductive Health*, 1983.

The ‘undue burden’ standard now allowed pre-viability⁶³ measures that did not constitute a breach of the woman's right to abort a non-viable fetus. Two main questions need to be answered through a careful interpretation of *Casey*: whether the Court hereinafter allows any type of pre-viability bans of abortion, and whether sex selection abortion ban can survive this constitutional scrutiny as a matter of legitimate state interest (post-viability bans).

Post-viability ban

Compared to pre-viability bans, *Casey*'s position towards post-viability abortion bans on sex selection is relatively comprehensible and consistent with *Roe*. In *Casey*, the Court has outlined that “subsequent to viability, the State in promoting its interest in the potentiality of human life may, if it chooses, regulate, and even proscribe, abortion except where it is necessary in appropriate medical judgement for the preservation of the life or health of the mother.” According to Molony, ‘a post-viability’ selection ban that also contains health and life exceptions can easily satisfy *Casey*'s standard. Some of the examples of post-viability abortion bans include state regulations on partial birth abortions, which were largely adopted as a result of the Supreme Court ruling in the case of *Gonzales v. Carhart* (2007). In *Gonzales*, the Court upheld the 2003 federal partial-birth abortion ban, regardless of the fact that the law did not include a health exception, even though there was a significant disagreement as to whether the use of partial-birth abortion procedure might be medically necessary in some cases. Currently, according to the Guttmacher Institute,⁶⁴ there are 43 states that prohibit abortions after a certain period in pregnancy; 17 of these states prohibit post-viability abortions without indicating a specific point in pregnancy, 24 ban it after 20 and 22 weeks of gestation, and only 2 states impose prohibitions in the third trimester. In addition, some of these states also require the approval or attendance of a second physician in cases

⁶³ The Court found that development of medical technologies in the field allowed it to conclude that a fetus could be considered viable also at 22 or 23 weeks of gestation rather than at the 28 weeks as previously mentioned by the Court in *Roe*. This made the strict distinction between first and second trimesters not ‘workable’.

⁶⁴ <https://www.guttmacher.org/state-policy/explore/state-policies-later-abortions>

of later abortions. Considering the *Gonzales* case, it seems that prohibition of abortions based only on the sex of the fetus can be justified easily, and does not meet any serious argument.

Pre-viability ban: Surviving the 'Undue Burden' Test through the State's Compelling Interest

While *Roe* entitles women to a 'freedom of choice' to decide whether or not to abort the fetus, it does not clearly articulate the reasons of abortions. This implies that at that time, the Court did not give much significance to underlying reasons that lead women undertake abortions. However, the Court did acknowledge that 'right of privacy' which included that the abortion decision was not 'absolute.' In particular, it outlined:

“We do not agree with the argument that the woman’s right is absolute and that she is entitled to terminate her pregnancy at whatever time, in whatever way, and *whatever reason* she alone chooses... the Court’s decision recognizing a right of privacy also may acknowledge that some state regulation in areas protected by that right is appropriate. A state may assert important interests in safeguarding health, in maintaining medical standards and in protecting potential life. At some point in pregnancy, these respective interests become sufficiently compelling to sustain regulation of the factors that govern the abortion decision.”

In order to protect the potential life, *Roe* established the three-trimester threshold policy, which corresponded to the increasing viability of the fetus, and was later overturned by *Casey*. At this time the abortion regulation allowed states to prohibit only late-term abortions (during the third trimester), so the first and second trimester abortions could be permitted only by request. Aiming to protect prenatal 'potential' life, the Court in *Roe* stated that “States may assert interests beyond the protection of the pregnant woman alone as long as at least potential life is involved.” Later, in *Casey*, the Court reestablished the central right of *Roe* (the right to access abortion) while at the same time accommodating the State's profound interest in potential life under the undue burden standard. Nevertheless, *Casey* never clarified whether or how its 'undue burden' standard could be applied to pre-viability abortion ban. While there are several possible interpretations of the case,

only one of them can be applied for justifying the ban on pre-viability abortions: the interpretation that considers the state's compelling interest in eliminating the sex discrimination.

Here the question is how the additional interests, such as elimination of sex discrimination that supports a narrow sex selection abortion ban, can be weighed under the undue burden standard. The answer to this can be found through the analysis of the Court's opinion with respect to the constitutionally protected freedom to associate for expressive purposes (Molony, 2014). In particular, he refers to opinions expressed in several Supreme Court cases, inter alia, *Roberts v. United States Jaycees*, 1984; *Board of Directors of Rotary International v. Rotary Club of Duarte*, 1987; and *Boy Scouts of America v. Dale*, 2000. The Court here was faced with the question of whether public accommodation statutes that prohibit discrimination based on race, religion, sex, and in the case of *Dale*, also sexual orientation, unconstitutionally infringed on a group association rights.

Roberts v. United States Jaycees, 1984, the Court held that the public accommodation statute of Minnesota did not infringe upon the constitutional rights of the US Jaycees by requiring the group to admit women as full voting members. Similarly to *Roe*, here the Court held that "the right to associate for expressive purposes is not absolute." Moreover, the Court stated that the "infringements on that right may be justified by regulations adopted to serve compelling state interests, unrelated to the suppression of ideas, that cannot be achieved through means of significantly less restrictive of associational freedoms" (Molony, 2014). What is remarkable is that the Court, in upholding the Minnesota statute, held that a state has a compelling interest 'of the highest order' in eradicating discrimination against women. In addition, the statute was adopted to suppress speech, but aimed at "equal access of publicly available goods and services" and it "did not impose any serious burdens on the male members' freedom of expressive association."

The Court in *Duarte* adopted a similar position and emphasized that "even if the California statute slightly infringed upon the Rotary members' right of expressive association, that infringement was justified because it served the State's compelling interest in eliminating discrimination against women.

On the other hand, in *Board of Directors of Rotary International v. Rotary Club of Duarte*, 1987, the issue was whether a New Jersey public accommodation statute that prohibited discrimination based on sexual orientation unconstitutionally infringed upon the freedom of expressive association of the Boy Scouts of America, which had revoked the adult membership of

homosexual activist James Dale. The Court in this case as well tried to apply the balancing test from *Roberts* and *Duarte*, putting the associational interest in freedom of expression on one side of the scale, and the State's interest on the other. However, the Court proceeded to give more weight to the interests of Boy Scouts, holding that “*state interests embodied in New Jersey's public accommodation law did not justify such a severe intrusion.*” The Court held:

“We recognized in cases such as *Roberts* and *Duarte* that States have a compelling interest in eliminating discrimination against women in public accommodations. But in each of these cases we went on to conclude that the enforcement of these statutes would not materially interfere with the ideas that the organization sought to express.”

This analysis was similar to that of *Hurley v. Irish American Gay, Lesbian and Bisexual Group of Boston, 1995*, in which the Court had found that the public accommodation statute that prohibited discrimination based on sexual orientation violated the First Amendment free speech rights of the private parade organizers, who did not wish to have a homosexual group marching in their parade. At the heart of the decision is the Court's assumption that if the object of the public accommodation statute in *Hurley* was to control the content of a person's speech, its impact would be severe and impermissible. Thus, the Court in *Dale* likewise found that the NJ statute “directly and immediately affected associational rights ... that enjoy the First Amendment protection.” The graveness of the impact was therefore crucial for the Court's decisions in both *Roberts and Duarte*.

The nature of a woman's right to choose abortion, and that of the right to freedom of expressive association are not identical, but they are very similar. These cases demonstrate that a state's compelling interest in eradicating sex discrimination justifies a slight infringement on expressive associational rights, and that the same compelling interest ‘of the highest order’ justifies a sex-selection abortion ban that imposes only a slight infringement on a woman's right to choose. Permitting sex selective abortions can possibly ‘coarsen society’ to the equal dignity of women and could impede the progress society has made in that aspect (*Gonzales v. Carhart, 2007*).

The analysis of the previously held abortion cases demonstrates that the Court had already applied the ‘undue burden’ test in many different instances prior to *Casey*, such as in *Planned Parenthood v. Danforth, 1976*; *Maher v. Roe, 1977*; *Bellotti v. Baird, 1979*; and *Harris v. McRae, 1980*.

In *Bellotti v. Baird*, 1979, the Supreme Court was faced with the Massachusetts parental consent statute for the second time. Here the Court held as partially unconstitutional the provision of the law that required a minor to acquire parental consent before carrying out an abortion. It held that the statute as a whole did not unduly burden a minor's right to seek an abortion, if it provided for additional 'safeguards,' such as giving the minor a chance to prove that "she is mature and well enough informed to make intelligently the abortion decision on her own." If these criteria could not be met by the minor, she was then required to obtain parental consent. *The Bellotti case* is limited in its applicability to other abortion cases due to its specific regulation on legal problems related to minors. However, the relevance of this case to sex selective abortions can be supported by the Court's argument that the state can enforce burdens on the right to seek an abortion without violating the abortion liberty. *Bellotti* also leads to a significant conclusion that state interference with an abortion decision can be justified based on the specific situation.

In *Maher v. Roe*, 1977, the Court for the first time addressed restrictions on public funding for abortions, upholding all similar statutes. In this instance the Court heard a case of two appellants (indigent women), who were unable to obtain a physician's certificate of medical necessity for undertaking abortions that would be covered by state Medicaid benefits. The appellants argued that the Equal Protection Clause of the Fourteenth Amendment was violated, since Medicaid provided funds for indigent women for childbirth. The Court in this case implied that abortion and childbirth are simply two alternative medical methods of dealing with pregnancy. It held that the "state need not fund elective abortions simply because it provides funds to indigent women for childbirth." The court outlined that the constitutionally protected interest "in making certain kinds of important decisions" free from governmental compulsion can be understood only by considering both the woman's interest and the nature of the State's interference with it. *Roe* did not declare an unqualified "constitutional right to an abortion," as the District Court seemed to think. Rather, the right protects the woman from unduly burdensome interference with her freedom to decide whether to terminate her pregnancy. It implies no limitation on the authority of a State to make a value judgment favouring childbirth over abortion, and to implement that judgment by the allocation of public funds.

There are several important conclusions that can be drawn from the analyzing the Court's reasoning:

- a) The regulation concerning the absence of funding for non-medically indicated abortions does not impinge upon the fundamental right of privacy, which protects a woman from unduly burdensome interference with her freedom to decide whether or not to carry out abortion, as it places no obstacle on a pregnant woman's path of seeking an abortion.
- b) The State's authority is not limited to making *a value judgment* favouring childbirth over abortion and to implementing that judgment via the allocation of public funds.
- c) The state is *not required to show a compelling reason (interest)* for its policy choice to favour normal childbirth.

It can be inferred, *inter alia*, that the Court once again emphasized that the woman's constitutionally protected interest in seeking abortion met the State's negative obligation of non-interference, rather than providing her with the highest constitutionally protected freedom. Similarly, in *Harris v. McRae*, 1980, the Court reaffirmed that lack of funding for abortions unconstitutionally interferes with a woman's right to obtain an abortion. Adopting a similar reasoning, the Court made a key distinction between *government-imposed obstacles to abortion* and *government interference in the abortion decision*. The abortion liberty does not suffer from the justified government interference in the abortion decision, unlike the government-imposed obstacles, which can be 'unduly burdensome.'

The interpretation of these cases suggests that the prohibition of sex selection will not constitute a government-imposed obstacle on the path of seeking an abortion, but will only be an attempt to influence the abortion decision. The government may justify prohibiting sex selection for several reasons: for the protection of the maternal health and the prenatal life, for the reaffirming the society's moral values, or for instance, avoiding a demographic imbalance. The government can and is expected to make a value judgement regarding what reasons for abortions are permissible and what reasons are not. The government can, as the result of a value judgement, encourage (or at least give higher protection) to abortions in cases of rape or incest, and discourage them in morally problematic cases of sex selection.

In addition, the findings of this study also suggest that parental-consent requirement was a state interest different from the interests underscored in *Roe* and *Casey* (*safeguarding the woman's health and protecting potential life*). The interest behind the parental-consent requirement was the protection of minors.

In 2018, the United States Court of Appeals for the Seventh Circuit delivered its decision based on the appeal from the Planned Parenthood of Indiana and Kentucky, Inc., et al., against the Commissioner of the Indiana State Department of Health, et al., concerning the House Enrolled Act No 1337 (signed into law HEA 1227).⁶⁵ The law modified the provisions regarding the abortion procedures in Indiana. In particular, new provisions entitled ‘Sex Selective and Disability Abortion Ban’ were added, which prohibit a person from performing an abortion if the person knows that the woman is seeking an abortion solely based on the sex, disability, race, colour, national origin, or ancestry of the fetus (collectively, ‘the non-discrimination provisions’). The non-discrimination provisions apply to abortions “before the earlier of viability of the fetus or twenty weeks of post fertilization age.” Other provisions, added to the informed consent process, instruct those performing abortions to inform women of the non-discrimination provisions. The violation of these provisions is a felony, and the person who ‘knowingly and intentionally’ provides an unlawful abortion is subject to disciplinary sanctions and civil liability for wrongful death.

The adoption of the non-discrimination provisions was prompted by the medical advances of non-invasive genetic testing, which allow detection of the fetal sex and genetic disorders (such as Down syndrome) during the early stages of the pregnancy. Both PPINK and the State have, at the time of adoption of the provisions, acknowledged that the rate of women seeking an abortion based on fetal sex or disability will likely increase as the tests become more widespread.

As one would expect, the Court referred to both *Roe* and *Casey* to declare that the non-discrimination provisions violate a woman’s Fourteenth Amendment right to terminate her pregnancy before viability. The Court once again stated the key holding of *Casey*, that a “woman’s right to terminate her pregnancy prior to viability is categorical as ‘a State may not prohibit any woman from making the ultimate decision to terminate her pregnancy before viability.’” The Court affirmed that *Casey* is well-recognized as a controlling precedent by the Supreme Court (see *Gonzales v. Carhart*, 2007; *Stenberg v. Carhart*, 2000; and *Planned Parenthood of Indiana, Inc. v. Commissioner of Indiana State Department of Health*, (7th Cir. 2012), etc.). The non-

⁶⁵ HEA 1337 creates Indiana Code chapter 16-34-4, entitled ‘Sex Selective and Disability Abortion Ban.’

discrimination provisions, which are considered by the Court as “absolute prohibitions on abortions,” violate this well-established Supreme Court precedent, and therefore they are unconstitutional. The Court also stated that other circuits have ‘successfully’ dealt with striking down the prohibitions before the viability.⁶⁶ Moreover, it rejected the State suggestion that *Casey* only recognized a ‘woman’s binary choice’ of whether or not to have a child prior to viability. That is to say, that *Casey* only recognized “a privacy right in the binary decision of whether to bear or beget a child,” yet that right is not necessarily extended to the decision to terminate a particular child. The Court upheld that “nothing in the Fourteenth Amendment or Supreme Court precedent allowed the State to invade this privacy realm to examine the underlying basis for a woman’s decision to terminate her pregnancy prior to viability.”

The Court furthermore assessed the State’s claim that the non-discrimination provisions embodied a “qualitatively new type of abortion regulation” and that State had a compelling interest in prohibiting discrimination of unborn children based on the sex, race, and other characteristics in the light of newly advanced genetic screening technologies. It acknowledged that the State indeed has some legitimate interests in protecting the health of the woman and life of the unborn child; however, these interests at stake “*were not strong enough to support a prohibition of abortion or the imposition of a substantial obstacle to the woman’s effective right to elect the procedure.*” A woman’s privacy right, therefore, cannot be reweighted against the State’s interest in eliminating discrimination. The Court thus affirmed the district court’s judgement and concluded that both non-discrimination provisions of the Act, and the provisions requiring abortion providers to inform women of the non-discrimination provisions, are unconstitutional.

An interesting opinion was delivered by Manion, *Circuit Judge*, who concurred in the court’s judgement invalidating the non-discrimination provisions. He noted that as an intermediate appellate court, they were bound to follow *Casey* as a Supreme Court controlling precede, despite acknowledging that the analysis in *Casey* had two major flaws that had led to an absurd result when it came to abortion regulations. First, abortion was treated as a *super-right* by *Casey*, “more sacrosanct even than the enumerated rights in the Bill of Rights.” Secondly, by abolishing *Roe’s*

⁶⁶ See, e.g., *MKB Mgmt. Corp. v. Stenehjem*, 795 F.3d 768, 773 (8th Cir. 2015) and *Edwards v. Beck*, 786 F.3d 1113, 1117 (8th Cir. 2015) (statutes prohibiting pre-viable abortions after twelve weeks where the fetus has a detectable heartbeat); *McCormack v. Herzog*, 788 F.3d 1017, 1029 (9th Cir. 2015) (statute prohibiting pre-viable abortions where fetus is at least 20 weeks gestational age).

strict scrutiny test for all first-trimester abortion regulation, it in reality had replaced it with a more difficult test to satisfy, which is an effects-based test. Thus, had the Court applied the strict scrutiny test in the given circumstances, the Indiana law would have prevailed.

Furthermore, according to Manion, the non-discrimination provisions are sufficiently narrow to apply only in cases of ‘private eugenics,’ and Indiana’s compelling interest to eliminate discrimination against the ‘protected classes’ is reasonable. As a result of the prohibition, most women would not face an obstacle on their path to seek termination of pregnancy; only those who intended to carry out abortion based on specific fetal characteristics would.

The strict scrutiny test, according to Manion, requires both a compelling end and a tight fit between means and ends. Means-ends analysis is the typical analysis conducted by courts in constitutional cases. Some recent examples of application of means-ends analysis are the Supreme Court decisions regarding restrictions on fundamental rights like freedom of speech, and the right to be free from racial discrimination, which have both survived the strict scrutiny test.⁶⁷ It is safe to say that currently ‘the right to pre-viability abortion’ is a more protected (almost absolute) right than even the freedom of speech. *Casey*’s ‘undue burden’ standard, as an effects test, will inevitably ban every attempt to limit the abortion choice. Thus, in order for Indiana law to pass constitutional scrutiny, the Supreme Court should reconsider its standard in *Casey* by at least giving abortion the same status as actual constitutional rights. As a result, states will be enabled to “assert their legitimate interests in defense of abortion laws.” One suggested means of reconsideration is to replace the above-mentioned effects test with the *Anderson-Burdick* sliding scale of means-ends scrutiny. The *Anderson* balancing test was first used in *Anderson v.*

⁶⁷ See, e.g., *Williams-Yulee v. Florida Bar*, 135 S. Ct. 1656 (2015) (upholding Florida judicial conduct rule prohibiting judicial candidates from personally soliciting campaign funds); *Fisher v. Univ. of Tex. at Austin*, 136 S. Ct. 2198 (2016) (upholding racially discriminatory college admissions program on the ground that it is narrowly tailored to satisfy the university’s interest in attaining diverse student body)

Celebrezze, 1983,⁶⁸ and later in *Burdick v. Takushi*, 1992,⁶⁹ to justify a state prohibition on write-in voting, which poses a slight infringement on the exercise of the right to vote within the context of the larger ballot access scheme, by merely advancing a legitimate interest (Riccianni, 1994).

The *Anderson* balancing test considered several challenges to the constitutionality of state ballot access laws, which should be resolved through the analytical process used in ordinary litigation. The first challenge required the Court to “consider the character and magnitude of the asserted injury to the rights protected by the First and Fourteenth Amendments.” Second, the Court “must identify and evaluate the precise interests put forward by the State as justifications for the burden imposed by the Law.” Finally, in weighing the rights burdened and the state’s interest, the Court “must also consider the extent to which those interests make it necessary to burden the plaintiff’s rights” (Riccianni, 1994).

In the context of Indiana’s non-discrimination provisions, the *Anderson-Burdick* would require a plaintiff challenging a restrictive abortion law to meet a threshold showing that the regulation was a ‘severe’ burden in its own right. The State would have to satisfy strict scrutiny if the plaintiff could manage to demonstrate the ‘severe burden.’ Otherwise courts would uphold the regulation, so long as it was rationally related to a *legitimate* (not necessarily a *compelling* or important) government interest.

Applying *Anderson-Burdick*’s test can actually give Indiana (or any other state with a certain abortion prohibition) a chance to justify its regulation. Similarly to *Burdick*, where the constitutionality of a specific provision of ballot access was evaluated in the context of the total

⁶⁸ See *Anderson v. Celebrezze*, 460 U.S. 780 (1983). In *Anderson v. Celebrezze*, an independent presidential candidate challenged an Ohio law requiring the filing of a nominating petition by March 20 to qualify for the upcoming November general election. The petitioner claimed that the early filing deadline was an unconstitutional burden on the voting and associational rights of his supporters. The court here stated that the primary concern at stake was the impact that ballot access restrictions placed on the rights of voters. The Court confirmed once again that the right to associate for the advancement of political beliefs and the right to cast votes effectively were fundamental freedoms, however it acknowledged that ‘not all restrictions on candidates’ access to the ballot impose unconstitutional burdens on voters’ rights.’

⁶⁹ *Burdick v. Takushi* (91-535), 504 U.S. 428 (1992). Alan Burdick, the petitioner from Honolulu, had wished to write-in his desired candidate’s name in the 1986 election, but was informed that Hawaii electoral laws prohibited write-in votes. He filed suit against respondent state officials, claiming that Hawaii’s prohibition on write-in voting violated his rights of expression and association under the First and Fourteenth Amendments. The US Supreme Court in this case upheld the ban on write-in voting in Hawaii, deciding that the state possessed important regulatory interests for the ban. It ruled that similar bans do not violate voters’ First Amendment rights of free expression and political association.

ballot access scheme, the constitutionality of abortion laws should be tested within the whole scheme of access to abortions. This way the restrictive provision will not result in unconstitutionality, unless the entire scheme of access to abortion impermissibly infringes upon women's rights. The replacement of the effects test with the 'traditional means-ends' test will lead to more coherent state abortion legislation and federal court's jurisprudence.

Manion concluded that the Circuit Court "is powerless to change the current state of affairs and only the Supreme Court or a constitutional amendment can do that."

The same year, the Commissioner of the Indiana State Department of Health, et al., following the above discussed ruling, petitioned the Supreme Court for a writ of certiorari to review the judgment of the United States Court of Appeals for the Seventh Circuit. The petition had been justified by "the extraordinary procedural saga and multiplicity of irreconcilable judicial opinions that the case has generated, the inescapable conflict with the Eighth Circuit that now exists, and the overall national importance of the issues presented all justify Supreme Court review."

The Supreme Court had to decide whether to grant review of a Seventh Circuit ruling. Indiana's certiorari petition presents two questions:

1. whether a state might require health care facilities to dispose of fetal remains in the same manner as other human remains (i.e., by burial or cremation);
2. whether a state might prohibit abortions motivated solely by the race, sex, or disability of the fetus.

The first question presented by the petitioners asked the Supreme Court to resolve the Circuit conflict over the nationally important question of whether States may require fetal remains to be handled the same way as other human remains. Here the petitioners argued that the decision of the Seventh Circuit Court contradicted that of the Eight Circuit, which had upheld an identical requirement in Minnesota.⁷⁰ In particular, the Minnesota law had required healthcare providers either to cremate or bury aborted and miscarried fetal remains, exempting the cases when women had miscarried at home and had chosen to dispose of the remains themselves. In addition, similar to Indiana's, the Minnesota law permitted cremation of multiple fetuses at the same time. The

⁷⁰ Planned Parenthood of Minnesota v. Minnesota, 910 F.2d 479 (8th Cir. 1990)

Eight Circuit Court, by applying the rational-basis test, held the Minnesota law valid and required the fetal remains to be treated the same way as human remains. The Seventh Circuit, however, held that State had no legitimate interest in demanding that the abortion providers dispose of aborted fetuses in a similar manner as human remains. Moreover, it considered that requiring abortion providers to dispose of fetal remains differently from women who miscarry at home is irrational.

It is important to mention that even the Seventh Circuit itself was not unanimous with regard to this issue. The majority of the panel, which consisted of Judge Bauer and Judge Flaum, invalidated the Indiana law based on the rational basis test. Meanwhile, other judges (Rovner and Hamilton) considered the ‘undue burden’ test more applicable as “the case involved a fundamental right” issue, and Judge Manion provided a dissenting opinion. He addressed the Court’s claim that it cannot accept Indiana’s purported interests in the dignified and humane disposition of fetal remains because it “would require recognizing that the fetus is legally equivalent to a human.”

According to Manion, the Supreme Court’s judgement that the Fourteenth Amendment did not protect the unborn means that the right to abortion cannot be interfered with by the States. It can also mean that Indiana cannot be required to treat fetal remains the same way as other human remains, as it might otherwise be if the legal personhood of the unborn was recognized. This is however a false assumption, as States within the limits of *Roe* and *Casey* recognize the dignity and humanity of the unborn. One proof of this statement is the enforcement of many fetal homicide laws in different States — laws which have never been disputed with regard to their constitutionality.⁷¹

The Court can thus argue that both fetal homicide laws, as well as wrongful death statutes, aimed to protect and promote “a valid state interest” in respecting the *potential* life, and that Fourteenth Amendment does not allow States to treat the unborn as persons. In reality, the existence of these laws proves that they do just that.

In addition to these arguments, underscored also by Judge Manion, petitioners concluded that Fourteenth Amendment did not preclude treating a fetus as “morally and scientifically”

⁷¹ See *Coleman v. DeWitt*, 282 F.3d 908, 912-13 (6th Cir. 2002), where the Court rejected a manslaughter’s defendant’s argument that Ohio’s fetal homicide statute was unconstitutional as applied to unborn children before viability.

human. The State's legitimate interest in protecting the dignity and respect for the fetus can be enforced so long as it does not infringe upon the right to access abortion.

With regard to the second question presented, petitioners asked the Court to clarify whether States may preclude discriminatory abortion based on the race, sex, or disability of the fetus (including Down Syndrome).

On May 28th, 2019, the US Supreme Court decided on the petition for writ of certiorari to the US Court of Appeals for the Seventh Circuit. With regard to the matter of the first question, the Court held that the Court of Appeals for the Seventh Circuit incorrectly invalidated the new provisions of Indiana law related to the disposition of fetal remains by abortion providers. The Court thus reversed the Seventh Circuit's finding that Indiana's law on the disposal of fetal remains in the same manner as all other human remains is unconstitutional. The Court once again referred to *Akron v. Akron Center for Reproductive Health* to emphasize that a State has a "legitimate interest in proper disposal of fetal remains." Therefore, the Seventh Circuit has neglected to recognize such interest as a justifiable basis for Indiana's fetal remains disposition law. Here, the Court referred to its previous judgement in *Armour v. Indianapolis*, 566 U.S. 673, 685 (2012), where it had noted that "on the rational basis review, the burden is on the one attacking the legislative arrangement to negate every conceivable basis which might support it." The Court further elaborates that the remaining issue at stake was whether the law was rationally related to the State interest in proper disposal of fetal remains, and that in the case of Indiana, it was.

When it came to the second question of whether Indiana may prohibit disclosure of the information on the sex, race, and disability — and subsequently also abortions based on this information, the Court refused to view it on the merits. In particular, it mentioned that the Court followed the ordinary process of denying petitions, when those raise legal issues that have not been considered by additional courts of appeals according to Court's Rule 10. Rule 10 requires that the petition for a writ of certiorari be granted only for compelling reasons and emphasizes that a review on a writ of certiorari is a matter not of right, but rather of judicial discretion.

Despite the fact that the Rule does not imply any strict conditions for the Court to follow, it indicates that the Court can consider the review on a writ of certiorari in cases when, inter alia, the US Court of Appeals has entered a decision in conflict with the decision of other courts of appeals on the same important matter; has decided an important federal question in a way that conflicts with a decision by either a state court of last resort, or of a United States Court of Appeals;

a state court or a United States Court of Appeals has decided an important question of federal law that has not been, but should be, settled by this Court — or it has decided an important federal question in a way that conflicts with relevant decisions of this Court.

While the Court has denied to review the case on the merits without providing any more substantial details, Justice Thomas further addressed the possible reasons behind the Court’s decision. He notes:

“Technological advances have only heightened the eugenic potential for abortion, as abortion can now be used to eliminate children with unwanted characteristics, such as a particular sex or disability.

Given the potential for abortion to become a tool of eugenic manipulation, the Court will soon need to confront the constitutionality of laws like Indiana’s. But because further percolation may assist our review of this issue of first impression, I join the Court in declining to take up the issue now.”

Justice Thomas further stated that in the past, both the District and the Seventh Circuit Courts had held that *Casey* had already decided the matter by holding that “the woman has the right to terminate her pregnancy prior to viability as is categorical.” In two other occasions, in particular in *Planned Parenthood of Indiana and Kentucky, Inc. v. Commissioner of Indiana State Dept. of Health*, 888 F.3d 300, 305 (CA7 2018) and in *Planned Parenthood of Indiana and Kentucky, Inc. v. Commissioner, Indiana State Dept. of Health*, 265 F. Supp. 3d 859, 866 (SD Ind. 2017), the Court also refused the en banc rehearsal of the case. He agrees with the position of Judge Easterbrook that “*Casey* did not consider the validity of an anti-eugenics law” and that judicial opinions, unlike statutes, “resolve only the situations presented for decision.”

Moreover, he argues that *Casey* did not decide whether the Constitution requires States to allow eugenic abortions. *Casey* only discussed the constitutionality of “five provisions of the Pennsylvania Abortion Control Act of 1982” that were said to burden the supposed constitutional right to an abortion; however, neither of them included prohibitions on abortions based on sex, race, or disability. At the time, Pennsylvania’s existing prohibitions on sex-selective abortions were not challenged at the Court. Thus, Thomas states that considering the Court’s denial of certiorari for now, the constitutionality of other laws like Indiana’s remains an open question. With

this in mind, he recalls the Court's previous judgements on different occasions, aimed at protecting rights of people who are targets of race-, sex-, or disability-based discrimination.

Justice Thomas concludes that:

“Although the Court declines to wade into these issues today, we cannot avoid them forever. Having created the constitutional right to an abortion, this Court is dutybound to address its scope. In that regard, it is easy to understand why the District Court and the Seventh Circuit looked to *Casey* to resolve a question it did not address. Where else could they turn? The Constitution itself is silent on abortion.”

Box v. Planned Parenthood of Indiana and Kentucky Inc. shows once again the political unwillingness of the Court to engage in ethically controversial discussions of selective abortions, whether they are based on sex, race, or disability. As Justice Thomas rightfully notes, the issue cannot be ignored forever, and there will most probably come a day when these discussions will be necessary. For now, the Court has attempted to avoid it by referring to the fact that Indiana's Seventh Circuit Court is as of yet the only Court addressing the issue. This means that in the likely event that other courts of appeals have similar discussions on the constitutionality of selective abortion, the Supreme Court will need to give the much-needed clarification. Similarly, even if according to Rule 10, a federal law ban is adopted and later disputed, the Court will still be required to do so.

Conclusion

The U.S. sex selective regulations (or the lack thereof) involve multiple complex legal implications. Perhaps the one most discussed by legal and bioethics experts is related to sex selective abortion bans. Currently, there are only 8 states that have enacted statutes prohibiting sex-based abortions; two of these statutes address also race-based selection of the fetus, and two others ban selection because of fetal genetic abnormality. The Chapter discussed in detail abortions bans in two States (Arkansas and Indiana). Both acts prohibit the physicians or any other person

from intentionally performing or attempting to perform an abortion while knowing that the woman is pursuing it on the basis of selecting the sex of the fetus. In addition, the Indiana law also requests that the woman be informed about the prohibition of abortion as a method of sex selection (through an informed consent form). The common feature of these acts is an exclusion of liability for a woman who seeks selective abortions, and who additionally will not be prosecuted (criminally or civilly) for conspiracy to violate the Act.

As mentioned earlier, the States, by excluding women from any type of liability, attempted to bypass the possibility of being held unconstitutional. Traditionally, any restriction on abortions rights has been considered to violate the First Amendment ‘right to privacy’ and the Fourteenth Amendment Due Process clause. The Chapter focuses extensively on the discussion of two fundamental Supreme Court cases, *Roe v. Wade* and *Planned Parenthood v. Casey*, to argue that restrictions on the right to access abortion can be held constitutional if passed through a strict scrutiny test. Moreover, prohibiting sex-based abortions is within a State’s compelling interests. The chapter also draws attention to relevant discussions on the ‘moral’ and ‘legal’ personhood of the fetus from the US historic legal perspectives. Here I have analyzed several Federal and State court rulings, as well as scholarly articles, to demonstrate that protection of the life and dignity of the unborn children was one of the major reasons for common abortion bans before *Roe v. Wade*. The vast majority of the analyzed cases prove that the moral dilemma between the welfare of the mother and the protection of the unborn has gained more attention in the late 19th and early 20th century. The legislation that existed prior was not favouring abortions, although they were already commonly carried out. It does not follow that *Roe v. Wade* should be overturned in order to completely ban access to abortion. However, given the chance to review the petition from Indiana, it should “institute sex selective abortion bans for the sake of its own citizens, and as a way to promote women’s equality and right’s around the globe” (Charlotte Lozier Institute, 2016).

The other very important issue associated with sex selective bans is the lack of proper regulations for acceptable use of preconception and preimplantation technologies. Despite having a rapidly growing market of non-invasive prenatal tests, other technologies like PGD/IVF, and less frequently, sperm sorting, are used in the United States to achieve the desired sex of the fetus. While the ban on abortions is the most urgent step to be taken, comprehensive sex selective regulations should also involve restricted use of sperm sorting and bans on the choice of embryos during IVF treatment. Currently, as mentioned in Chapter 2, lack of general legal guidance exists

also with regard to PGD use, with nearly half of fertility clinics willing to provide PGD for non-medical reasons. According to the recent report of the Charlotte Lozier institute, the global trend of sex discrimination through abortions will continue to spread (Charlotte Lozier Institute, 2016). Focusing only on abortion bans without implementing bans on the use of preimplantation and preconception technologies in the U.S would be “inconsistent, incomplete, and ineffective in curbing the practice of gender discrimination via sex selection.” Current regulatory framework not only protects the ‘super right’ of abortion, but leads to the notion that sex selection itself can be regarded as a ‘right’ safeguarded by the Constitution.

Aside from an absence of a coherent legal framework, the situation is further complicated by the lack of a common approach from healthcare professionals. This has been clearly reflected in subsequent reports of the Ethics Committee of the American Society of Reproductive medicine. In its first report addressing the legal and ethical aspects of sex selection, the Committee approved the use of PGD for sex selection in order to avoid the birth of children carrying sex-linked disorders. At the same time, it held that the use of PGD for non-medical sex selection while undergoing IVF should “not be encouraged” (ECASRM,1999). In the next report in 2011, the Committee however considered these preconception selection methods, such as sperm sorting, as experimental. It concluded that “sex selection aimed at increasing gender variety in families may not so greatly increase the risk of harm to children, women, or society that its use should be prohibited or condemned as unethical in all cases” (ECASRM, 2011). In its 2015 report the committee acknowledged that there is a general lack of consensus on whether it is ethical for providers of assisted reproductive technologies to provide sex selection services as well. The committee emphasizes that patients’ (reproductive) autonomy should be weighed against concerns over gender bias, sex stereotyping, burdens, and risks of the procedure.

The table below summarizes the current US regulatory framework for technologies used for sex selection.

	<i>Selective Abortion Through Ultrasound Diagnosis</i>	<i>Non-invasive Prenatal tests</i>	<i>Preimplantation Genetic Diagnosis</i>	<i>Sperm Sorting</i>
<i>Federal regulations</i>	No*	No	No	No
<i>State regulations</i>	8	No	No	No
<i>Guidelines/ Recommendations</i>	No	Yes	Yes	Yes
<i>General Regulation of Medical Practice</i>	Yes	Yes	Yes	Yes

* Pending H.R. 147- Prenatal Nondiscrimination Act of 2017 (PRENDA), 115th Congress

Chapter 7: The European Prohibitive Model: Regulatory Implications in Israel and Victoria (Australia)

Sex Selection Regulations in Europe: A Common European Approach?

The regulatory model of non-medical sex selection in Western Europe has arguably attracted less public attention than in the United States. There are several reasons to explain this: first, as demonstrated by several studies that have been carried out in different European countries (Germany, United Kingdom, etc.), the majority of the population has affirmed that selecting the sex of the child is an unethical, discriminatory act that undermines human dignity (Himmel, Dahl, & Michelmann, 2008; Dahl E., 2004; Balen, 2006). The studies indicate not only that the general population is opposed to the idea of choosing the sex of the offspring, but also that there is a consensus among physicians and other clinical staff against the misuse of the reproductive technologies. In particular, several studies of Edgar Dahl have shown that approximately 30% of Germans were opposed to any type of preconception sex selection, about 60% approved its use for medical purposes, 10% approved the use for non-medical reasons, and 6% actually expressed interest in considering the procedure for themselves. The results of the survey thus illustrated that the values of the citizens were reflected in the German Embryo Protection Act, of which Article 3 made preconception sex selection, for any but the most serious of medical reasons, strictly prohibitible and punishable by 1 year of imprisonment.

Another survey conducted among 2,165 adults in the United Kingdom has shown that more than 80% of Britons were opposed to non-medical sex selection (Human Fertilisation and Embryology Authority, 2003). Based on the results of the survey, the HFEA later recommended outlawing any use of preconception technologies for non-medical sex selection purposes. When providing the recommendation, the report explicitly referred to a ‘general consensus’ among British parents against non-medical sex selection.

Though these studies largely confirm the negative attitude of European parents against sex selective practices, the results of surveys were significantly different in cases when parents were asked if they would choose the sex of their child for family balancing reasons. In particular, couples

with two boys and couples with two girls were revealed to be more likely to have a third child, than couples with one boy and one girl. This distinct trend towards a balanced family has been observed in Germany, the UK, the US, Canada, Italy, Spain, Sweden, Belgium, Austria, Switzerland, and The Netherlands (Hank & Kohler, 2000; Pollard & Morgan, 2002).

This is not to say that sex selective practices never occur in European (especially Western European) countries, since there is evidence that here, non-medical sex selection can mainly be traced in ethnic minority groups. These practices, nevertheless, remain uncommon.

The reference to the aforementioned studies raises a very important question: is the general public opinion behind the restrictive regulations on sex selection in Europe? In other words, how and why was it decided that sex selection for non-medical reasons, through the use of preconception and post-conception methods, should be prohibited? Before attempting to answer this question, it is important to refer to the main legal documents that serve as a basis for regulation.

In Europe, that basis is the Council of Europe's Convention for the Protection of Human Rights and Dignity of the Human Being with Regard to the Application of Biology and Medicine (the Oviedo Convention) and its additional protocols. In particular, Article 14 of the Convention states:

“The use of techniques of medically assisted procreation shall not be allowed for the purpose of choosing a future child's sex, except where serious hereditary sex-related disease is to be avoided.”

It can be seen that the aim of the Article is prohibition of non-medical sex selection *only* through the use of medically assisted technologies, such as by artificial insemination or in vitro fertilization. The Article does not directly mention selective abortions that are carried out after fetal sex determination through ultrasound diagnosis. This apparent gap has been regulated by most European countries through implementation of national laws and guidelines prohibiting fetal sex selection. In particular, currently 25 European countries have prohibitions on sex selective practices. Interestingly, four out of these countries prohibit sex selection also for medical reasons (Austria, Malta, Romania, and Switzerland).⁷²

⁷² <http://www.biopolicywiki.org/index.php?title=Europe>

The Convention has inspired adoption of the most prohibitive regulations in Europe. Despite the fact that some of its provisions received a large amount of critical and controversial feedback from member states, there seemed to be agreement regarding Article 14. The Convention has so far been ratified by 21 Member States, which means not all European countries having sex selective policies have ratified the Convention. One example is the United Kingdom, which as mentioned, has prohibited non-medical sex selection. Some other countries that have not ratified the Convention include Council of Europe member states, Armenia and Azerbaijan, which have only recently adopted policies against non-medical sex selection. This was a direct consequence of the adoption of the European Parliament resolution on “Gendercide: the missing women?” This has been so far the most recent attempt of stressing the importance of regulating non-medical sex selection.⁷³

The Report uses ‘gendercide’ as a sex-neutral term referring to the systematic, deliberate and gender-based mass killing of people belonging to a particular sex, which is a rising but underreported problem in several countries, with lethal consequences. Here, the Report refers to the countries with dangerously distorted sex-at-birth ratios — such as China, India, and Vietnam — and further emphasizes that widespread selective practices also occur in Europe (Albania, Armenia, Azerbaijan, and Georgia). In its preamble, the Report refers to Article 3 of the Treaty on European Union (TEU) which emphasizes values common to the Member States — such as pluralism, non-discrimination, tolerance, justice, solidarity, and equality between men and women — and Article 8 of the Treaty on the Functioning of the European Union (TFEU), which lays down the principle of gender mainstreaming, as it states that the Union shall in all its activities aim to eliminate inequalities, and to promote equality, between men and women.

Other important international legal documents that the Report cites include Article 23 of the Charter of Fundamental Rights of the European Union, the United Nations Convention of 18 December 1979 on the Elimination of All Forms of Discrimination against Women (CEDAW), the Beijing Declaration and Platform for Action adopted by the Fourth World Conference on Women on September 15th, 1995; and with regard to its resolutions, and the Declaration and Programme of Action of the 1994 Cairo International Conference on Population and Development (ICPD).

⁷³ European Parliament resolution of 8 October 2013 on Gendercide: the missing women?

While the Report emphasizes the importance of combating gender discrimination and promoting solidarity and equality between the genders, it applies to the cases of widespread discrimination and its outcomes. The report does not provide any ethical ground for restricting individual cases of sex-based selections, and neither does the Convention or its Explanatory Report. Notwithstanding this, the Oviedo Convention represents a breakthrough in protection of human rights in the biomedical field, as it addressed some of the most important ethical and legal issues connected with growing biomedical research. While the Convention's application is limited to a certain region, and its binding force is possible only through ratification by member states, its fundamental principles have been integrated into many national legislations.

In fact, the Oviedo Convention is perceived as an additional instrument of human rights protection at a regional level, and several of its provisions are inspired by the European Convention of Human Rights, which will be addressed more in depth in the following section of the work.

Regardless of the significance of the principles grounded in the Convention, their enforcement remains problematic. Since there is no specific jurisdictional or quasi-judicial body to hear the cases dealing with violations of the Oviedo Convention, there were suggestions that the European Court of Human Rights (ECtHR) could possibly deal with its enforcement. The experience of the ECtHR, however, up until today has been limited to using only the Oviedo Convention as a tool to interpret more general principles of ECHR. The fact that the ECtHR does not have power to hear violations of Oviedo Convention means that there is no history of applications based on Article 14. Non-medical sex selection has never been among contested reproductive rights discussed by the ECtHR; in fact, most of these cases have involved 'the right to abortion', 'right to private life,' and 'the right to life' of the unborn.

In the following section of the work I will analyze some of the most relevant ECHR cases that can shed light on the Court's possible perspective on the issue at stake.

Rights of the Unborn under the European Convention for the Protection of Human: Landmark cases of the European Court of Human Rights

According to Copelon, Zampas, Brusie, & deVore (2005), the European Convention for the Protection of Human Rights and Fundamental Freedoms (ECHR) did not even discuss the question

of whether to date right from conception or from the moment of birth, and it relied vastly on the Universal Declaration of Human Rights. In particular, the Preamble of the Convention states that “the governments of European countries that are like-minded and have a common heritage of political traditions, ideals, freedom and the rule of law, need to take first steps for the collective enforcement of certain of the rights stated in the Universal Declaration.” This indicates that the term ‘everyone,’ similar to UDHR, does not include the unborn children.

Neither do the European regional legal instruments support the argument that the right to life should be protected from the moment of conception, and nor does the long-standing case-law of the European Court of Human Rights. This Section of the Chapter will discuss the position of the European Court of Human Rights with regard to applicability of ‘the right to life’ to unborn children. The Court has had many opportunities to discuss the legal personhood of unborn children in its various decisions.

In particular, *in Paton v. United Kingdom, 1980*, the applicant attempted to prevent his wife’s abortion by claiming that his future child’s right to life was to be protected by Article 2 of the Convention. He additionally claimed that English law violated the right to liberty and security of the person under Article 5 of the European Convention on Human Rights, by permitting abortion at all. According to the applicant, the response violated his due process rights under Article 6, his private and family life under Article 8, and his freedom of conscience under Article 9. The applicant had filed an appeal to ECHR after several English courts dismissed his claims, and the abortion was eventually carried out. The application to ECHR was found inadmissible by the Commission on account of claims being manifestly ill-founded with respect to Articles 2 and 8. In addition, the Commission found that Articles 5, 6, and 9 were not relevant to the applicant’s complaints. In terms of defining Article 2 more closely, the Commission noted that its application was limited to specific situations: such as permissibility of the death penalty under Paragraph 1, and deprivation of life in cases described in Paragraph 2. Thus, the Commission emphasized that all the mentioned limitations, by their nature, can concern only already born persons and are not applicable to fetuses.

What is even more important, the Commission noted that “if Article 2 were held to cover the fetus and its protection under this Article were seen as absolute, an abortion would have to be considered as prohibited even where the continuance of the pregnancy would involve a serious risk to the life of the pregnant woman.” This would therefore mean that “the unborn life of the

fetus would be regarded as of higher value than the life of a pregnant woman.” When it comes to a father’s claim that he would have the right to be consulted and to have his right to privacy and family life respected, the Commission noted that the potential father's mentioned rights cannot be interpreted so widely as to embrace such procedural rights as claimed by the applicant (i.e., a right to be consulted, or a right to make applications, about an abortion which his wife intends to have performed on herself). The court here referred to the Report in the *Brüggemann and Scheuten* case.

Later the Court examined similar cases brought by *R.H v. Norway (1992)* and *Boso V. Italy (2002)*, where applicants sought to prevent their wives’ abortions based on the right to life of the fetus. The Court again decided in favour of permissive abortion laws.

Vo. v. France (2004) has attracted wider attention because it touched upon several important ethical and legal issues related to abortion regulations within different European countries. However, some authors claim it also underscored the existing inconsistencies between judgements before and after *Vo.* (Williamson, 2012; Ploomer, 2005). In *Vo. v. France*, the female applicant attempted to extend the right to life to fetuses. The applicant at stake had a therapeutic abortion as a result of medical negligence, despite her wanting to carry her pregnancy to term. The doctor performing the abortion had confused the applicant with another patient with a similar name, which led to interruption of the 21-week pregnancy.

The case drew much public attention in the country, and the applicant was represented in court by anti-abortion lawyers, who claimed that the doctor’s negligence resulted in violation of the fetus’s right to life under the Article 2. They required prosecution of the doctor for unintentional homicide, instead of a lower degree charge of medical malpractice or regulatory violation according to the French law. After a few years of litigation, the French Court of Cassation refused to allow prosecution of the doctor for homicide, which resulted in the applicant’s arguing the case before the ECtHR. Article 2 of the Convention was once again the basis of the claims. Both the European Commission and the ECtHR did not go very far from the reasoning adopted in previous judgements, and they excluded the unborn children from the protection of ‘the right to life.’ However, this conclusion seemed to be the only similarity between *Vo* and previous case law of ECtHR. The Court had repeatedly held that its earlier case law “has been informed by a clear desire to strike a balance” (Ploomer, 2005).

The indicated balance between the maternal and fetal interests, as demonstrated earlier, has so far been behind many abortion regulations worldwide. In this aspect *Vo* demonstrated that the

rights of the mother and the fetus do not always necessarily conflict, and may even coincide. This necessitated the Court to apply another standard when dealing with interests of a fetus. More specifically, the Court in *Vo* chose to balance the fetal interests against the “common interests of the nation” and focused on the lack of consensus amongst the States.

As Williamson notes this might have been due to “the fear of imposing a single moral code.” Indeed, the Court emphasized that at European level there was no consensus at the time of *Vo* on the nature and status of the embryo or the fetus (Williamson, 2012). Nevertheless, the Court recognized that they are “beginning to receive more protection in the light of scientific progress and the potential consequences of research into genetic engineering, medically assisted procreation or embryo experimentation.” Meanwhile, the Court noted that the common ground between the States suggests that an embryo/fetus can be regarded as belonging to the human race. This is why in many European States an embryo/fetus, based on its potentiality and capacity to become a person, enjoys certain types of protection in the name of human dignity, without necessarily being defined as a ‘person’ with the ‘right to life.’ Some examples of this are the civil law protection means, such as inheritance and gifts, in France or the United Kingdom.

The Court also addresses the much-discussed terminological issue, stating that the Oviedo Convention is reasonably careful not to define the term ‘everyone’ in such a way as to include the embryo or the fetus. Instead it refers to the Explanatory Report of the Convention, which states that “in the absence of a unanimous agreement on the definition, the member States decided to allow domestic law to provide clarification for the purposes of the application of that Convention.” The same applies to the definition of the term ‘human being’ under the Additional Protocol on the Prohibition of Cloning Human Beings, and the Additional Protocol on Biomedical Research.

Several other important international human rights documents, like the aforementioned UDHR and the International Covenant on Civil and Political Rights (ICCPR), deliberately specified that human rights begin at birth, and that a fetus or an embryo is excluded from any antenatal application of human rights. In particular, Article 1 of the UDHR states that “All human beings are born free and equal in dignity and rights.” The word ‘born’ was criticized by some countries prior to ratification, and its removal from the text was proposed in order to protect the right to life from the moment of conception. However, this proposal was rejected. A similar approach was adopted when drafting the ICCPR, which refused to recognize the unborn's right to life as a human right protected by law. Moreover, the ICCPR’s interpreting and monitoring body

— the Human Rights’ Committee — has repeatedly underscored that prohibition on women’s access to abortion can lead them to seek unsafe abortions.

Similarly to the UDHR and the ICCPR, the Convention on the Rights of the Child recognizes women’s right to have safe abortions despite several erroneous past interpretations of Paragraph 9 of the Preamble. By referring to the Declaration of the Rights of the Child, the Paragraph indicates that “... the child, by reason of his physical and mental immaturity, needs special safeguards and care, including appropriate legal protection, before as well as after birth.” However, this Paragraph cannot be interpreted as relating to the protection of the unborn life from abortions; rather, it can be understood as the “recognition of a state’s duty to promote, through nutrition, health, and support directed to the pregnant woman, a child’s capacity to survive and thrive after birth.”

The Convention on the Elimination of All Forms of Discrimination Against Women restates the main principles set out in the UDHR and emphasizes that “everyone is entitled to all rights and freedoms set forth therein, without distinction of any kind, including distinction based on sex...” The Convention simultaneously uses the terms ‘all human beings born’ and ‘everyone,’ which some argue indicates a distinction between the rights of unborn and already born persons. However, later in its Article 16(e), it clarifies that the equal recognition of ‘all human beings’ dignity and rights’ relates only to born persons. In particular, the Article guarantees women with “the same rights to decide freely and responsibly on the number and spacing of their children and to have access to the information, education and means to enable them to exercise these rights.”

The European Commission, as well as the Court, have repeatedly stated that their decisions in similar cases aim to protect women’s fundamental right to a safe abortion. Notwithstanding the fact that European jurisdiction allows the States to have some discretion with regard to balancing the fetal life against the human rights of women, it has never invalidated liberal abortion laws or required States to regulate these laws to a certain extent.

Regardless of how the unborn are treated by national jurisdictions or the European Court, either as already born or in one of the development stages of human life, their use for medical or scientific purposes can be ethically problematic. Due to the ‘human’ nature of embryos, it is forbidden to treat them as objects of scientific or biomedical research. The same reasoning applies in the case of embryo selection based on its sex. The protection of human dignity requires

prohibition of commodification, instrumentalization, and commercialization of human life (Parfenchyk & Flos, 2017).

Reproductive Technologies and Nonmedical Sex Selection in Israel

The bioethical discourse in Israel is purported to have developed in a socio-cultural context where there is a “unique mix of orthodoxy and secularism, of communal paternalism and assertive individualism, of religious norms and liberal ethical values” (Shapira, 2006). The impact of Jewish religious norms on shaping Israeli biomedical jurisprudence cannot be disregarded; however, as Shapira (2006) mentioned, it did not result solely in prohibitive or restrictive regulations. In reality, depending on the particular subject-area, the Halakhic normative effect can be highly permissive instead. One example of this is the Israeli regulation of embryonic stem cell research based on its ethical and legal perspectives, which are in accordance with Jewish religious attitudes towards the value of life and the moral status of embryos. In this respect Jewish law separates six stages of ‘maturation and status,’ which include the preimplantation embryo as a first stage, and the neonate as the last. Interestingly, the lowest stage of the preimplantation embryo is not equal to an already implanted one, and it is perceived to have only a slight likelihood of reaching the neonate stage. This contrast is even more evident when it comes to an actual use of embryos in clinical practice. In particular, as noted by Shapira (2006), an in-vitro pre-implantation embryo that is to be potentially used for implantation may not be destroyed or used for scientific research, unless this is done for the purpose of saving life. However, an embryo without such a potential may be subjected to research, even if it entails the extraction of cells and the ending of the embryo’s capacity to develop.

In general, the supportive attitude of Israeli legal and religious institutions toward use of medical technologies for various purposes has been acknowledged by many (Hashiloni-Dolev, 2018). It has also been noted that unlike in Western countries, there is a lack of disagreement with regard to acceptability of the use of reproductive technologies for selective (eugenic) purposes. It has been explained by many factors, such as the existence of general pronatalism in the society, intolerance towards disability, and fear of burden associated with disability, etc. For instance,

Israel's pronatalism has been reflected in its policies of social security, state-funded healthcare, and labor laws. Here, families receive social benefits for each child, and have pregnancy (infertility) and birth related costs covered by the national health insurance — as opposed to the expenses of contraception. This favourable policy for childbirth has resulted in Israel's having the highest rate of IVF consumption in the world (Gross & Ravitskiy, 2003).

The Israelis' unusual approach has not resulted in a strong ethical (moral) conflict between the interests of mothers and the interests of fetuses, as compared to the American situation described earlier. Moreover, according to Hashiloni-Dolev (2018), the Israeli abortion policy does not de facto justify its regulation, based neither on some type of protection for women nor on acknowledgment of the moral or legal status of fetuses. Overall the abortion policy in Israel is as unique as are other policies in the field of human reproduction. The abortions here can be legally authorized by hospital committees based on the request of women. It may seem that this procedure will likely result in a decrease in abortion numbers; however, it is not the case. Increasingly rising popularity of prenatal diagnosis in the country has led to abortions being carried out routinely, including ones for selective purposes (Sztokman & Ariella Zeller, (2011–12)).

Remarkably, the Israeli abortion law (1977) has a general prohibition of abortions, providing for exclusions for four different cases. The act specifies that abortion can be performed based on the age (below 17 and above 40) of the woman; when the pregnancy is a result of rape, incest or extramarital relations; when the embryo or the fetus has a mental/physical defect; and finally, when the continued pregnancy may risk the woman's life, or cause her a physical or mental damage. The law does not provide any clear definitions as to what can be considered as a mental or physical defect in case of embryos (fetuses), which leaves room for vague interpretations. In addition, it is also not well-defined how the committee can assess the potential mental damage to a woman in case of continued pregnancy. Another atypical aspect of Israeli abortion policy is that it allows abortions at any stage of pregnancy. The ambiguity of the Abortion act, as well as of the secondary legislation, has caused an exceptionally high rate of abortion requests approval (Rimon-Zarfaty & Jotkovitz, 2011). Between 2006-9, as reported by the Israeli Ministry of Health, abortion committees approved 98-99% of all abortion requests, out of which 87-90% percent of applicants had justified the abortion citing mental and physical defect of the fetus. Moreover, the approval rate of late-term abortions (92-97%) constituted a from 5 to 10 times higher rate than that in the United States and Western Europe (Hashiloni-Dolev, 2007; Gross M., 1999). Other sources

indicate that approximately 96.5% of abortion applications that were received by termination committees from 1990 to 2013 were approved (Steinfeld, 2015).⁷⁴

Overall the research carried out by Rimon-Zarfaty & Jotkovitz demonstrates a rather paradoxical situation, in which on the one hand Israeli pronatalist policy aims to promote demographic increase by generally banning abortions, and on the other hand it gives the abortion committee wide discretionary authority for approval of abortion requests. Considering the fact that most committee members hold liberal views, in practice these requests are rarely rejected.

Non-medical Sex Selection in Israel

The distinctive socio-cultural and religious context, and the rather ambiguous laws, have resulted in vast amount of criticism directed at Israeli abortion regulation especially from both liberal and feminist, as well as general human rights perspectives. A considerable part of the criticism has been directed at Israeli regulation of non-medical sex selection, which similarly to abortion regulations is characterized by overall vagueness, inconsistency, and lack of clear ethical or even legal justification.

In Israel, since 2005, non-medical sex selection by PGD has been regulated in a different manner from other countries. The regulation of PGD in Israel is not based on legislation; instead, it is mandated by a directive of the Ministry of Health. The directive is guided by the premise that sex selection for non-medical reasons is basically prohibited, but that exceptions can be made in *'highly unusual, irregular and rare cases,'* and after written permission is granted by the National Committee for Sex Selection by PGD for Non-Medical Reasons (heretofore referred to as the 'Committee'). This Committee is appointed by the Director General of the Ministry of Health, and it is comprised of at least seven members, including: an expert in medicine/ bioethics, a clinical psychologist, a social worker, a legal expert, a physician with expertise in genetics, a physician with expertise in obstetrics and gynecology who works in the field of fertility, an ethicist, and a clergyman. The Committee can approve the fetal selection procedure only if all of the following conditions are met (Pessach, et. al., 2014). Those are:

⁷⁴ The numbers have been provided by Israeli Central Bureau of Statistics.

1. There is real and imminent risk of significant damage to the mental health of one or both parents, or to the expected child, if the procedure is not conducted.
2. The applicants are married and have four joint children of the same sex, and none of the other, except in extremely rare and idiosyncratic cases.
3. The applicants have received genetic counseling and information regarding all details of the PGD process, including chances of success, and ethical considerations, with particular attention to the status and fate of the embryos of the non-selected sex.
4. Applicants clearly understand that if healthy embryos of the non-selected sex remain, permission will not be granted additional in-vitro fertilization (IVF) cycles for sex selection until the remaining healthy embryos have all been used by the couple for reproductive purposes.
5. Both parents have given informed written consent.

It should be noticed that applicants can be either married and common-law couples, or single parents. IVF and PGD procedures for social sex selection purposes are not covered by the National Health Insurance program, so the applicants bear the expenses incurred for required procedures (Pessach, et. al., 2014). However, in cases of infertility treatment, Israel's National Health Insurance covers unlimited cycles of IVF for *all* Israeli women with up to two children in a given relationship (Simonstein, et.al., 2014). Pessach, et al. have reviewed 411 applications that were received during the first seven years of the Committee's activities. As expected, most of the applicants requested male children (100% of Arab families, 2/3 of Jewish applicants), and the primary reason for the request was a parent's intense emotional desire. In 78.4% of the applications, IVF or other fertility treatments were not necessary to achieve pregnancy (Leiter G., 2014).

As mentioned earlier, the Committee has to discuss whether each case of application for sex selection meets the criteria of being "highly unusual, irregular, or rare." Before deciding upon approving or denying the application, the committee analyses all relevant aspects of the case: i.e., the gender composition of the family, and psychological assessment results of both parents. Although all requirements stated in the directive should be met by applicants, the Committee pays special attention to whether there are at least 4 joint children of the same sex in the family and no child of the opposite sex. Pessach, et al., and others note that nearly all of those who requested a

male child had no sons; however, eleven couples who already had one or two sons requested another, mainly because the existing son(s) was handicapped in some way. Notwithstanding these few exceptions, the rationale of having the 4 same sex children requirement is aimed at family balancing and intended to prevent the risk of imbalance between the sexes in society (the male-to-female ratio in Israel in 2011 was 1.05) (Pessach, et. al., 2014). What is interesting in this case is also the fact that together with ‘family balancing’ considerations, the Committee is taking into consideration other ‘independent’ facts, including the religious, financial, emotional situation of the applicants. For instance, all 11 applications for social sex selection based on *religious reasons* were approved, while applications justified with *emotional reasons* constituted the second highest rate (45.8%).

It cannot be disputed that the Israeli government’s policy on sex selection is a unique and alternative way of regulating selective practices. It somehow acts as a balance between the strict prohibitive regulations of PGD/IVF use in Western European and Asian countries, and the *laissez faire* situation in the USA. According to Grazi RV (2008), the rationale for the Israeli guidelines includes an assumption that not each and every request for nonmedical sex selection through PGD is inherently unethical — especially when it does not reflect conferring greater worth to one gender over another, and it is supported by the major religious and ethical traditions that inform Israeli societal secular ethical sensitivities. Respect for the ethical and religious universe of one’s patients should be a natural component of any therapeutic protocol, especially in those cases where its concerns reflect the overall attitude of the general medical community.

Nonetheless, the policy is far from being called comprehensive, bearing in mind a number of reasons. First and foremost, the requirements set out in the Directive are not sufficiently precise and lead to vague interpretations. While the rationale behind some of the requirements is clear, the practical implementation is not. For instance, it is difficult to understand whether in the case of applications on religious grounds (both for Kohanim and for non-Kohanim), having 4 joint children of the same sex is still a prerequisite. The same question may be asked about the cases when couples prove their need for selection by *intense emotional desire*. How does the committee measure the degree of emotional desire? How is that desire more important in case of one couple and less in another? Do all families with 4 joint children automatically become eligible for selection? How does selection of the sex of the child for religious purposes make it less unethical?

To conclude, Israeli current regulations on sex selection through PGD (IVF) do differ from most of the existing regulations on the issue. However, the ethical implications they raise are multiple and sometimes conflicting. In particular, if family balancing (arguably) can be a justified reason for allowing social sex selection in exceptional cases, applications based on religious (ethical traditions) or emotional desire cannot be, regardless of how strong the desire is. The rationale behind this argument is that allowing sex selection for cultural or religious reasons (even in limited cases) in Israel is not very different from the case of social sex selection in India, China, or in other countries, where the motives of selections are cultural as well.

The Regulation of Sex Selection in Victoria, Australia

In Australia, the national ethical guidelines regulating ART have been recently reviewed by the National Health and Medical Research Council. The review process paid particular attention to the issue of non-medical sex selection, although ultimately, the updated ethical guidelines maintain the pre-consultation position of a prohibition on non-medical sex selection. The recent case in Victoria (JS and LS v Patient Review Panel) is a rare instance where the prohibition on non-medical sex selection has been explored by a court (tribunal) in Australia. This case is also unique as the tribunal discussed the permissibility of practicing sex selection based on an atypical regulatory framework of sex selection. In general, in Australia there is no uniform approach (both in legal and ethical domains) towards sex selection. The regulatory basis for governing the field of assisted reproductive technologies is complicated because of the federal legal structure, and it is composed of state legislation, national professional standards, and ethical guidelines. Four states, including Victoria, have passed specific ART regulations. The Assisted Reproductive Treatment Act 2008 (Vic) restricts PGD by prospective parents to usage only for the purpose of infertility treatment, or avoiding a risk of passing on a genetic disease. Parents wishing to undertake PGD for non-medical sex selection thus cannot be eligible for this procedure; however, they are allowed to apply to the Patient Review Panel to be granted an access to ART services. The panel decides whether to allow the parents to use ART services based on the guiding principles of the Act, and whether the procedure has therapeutic purposes and is consistent with *the welfare of the child principle*. Apart from the welfare of the child principle, the Panel should also take into

consideration the *interests and well-being of persons undergoing the treatment*. Non-medical sex selection is also prohibited in South Australia and Western Australia, but the regulatory framework in Victoria is the result of general statutory eligibility criteria (although, in those other states there is no option of applying to a review panel to circumvent such restrictions).

As outlined above, the Assisted Reproductive Treatment Act prohibits sex selection; however, it also provides for two exceptions from this general rule: (1) sex selection can be undertaken to avoid the risk of transmission of a particular genetic abnormality or disease to a child of a particular sex, or (2) the Panel has otherwise approved the use of PGD for sex selection. Failing to comply with the following regulations leads to criminal prosecution. It can be inferred from this quite vague formulation that the Panel has discretionary power when granting an authorization for selection. This is a false assumption. The principles of statutory interpretation require that the Panel's power to authorize non-medical sex selection should be exercised in accordance with the purpose and objects of the Act. The Panel is bound by the guiding principles in the Act — in particular, the principle that the welfare and interests of persons born are paramount, and that it is necessary to protect the health and well-being of persons undergoing treatment.

In addition to state legislation, the use of PGD for non-medical reasons is also addressed by the national guidelines, which acknowledge that sex selection is an ethically contentious topic. In particular they note:

“attitudes towards some of the more controversial practices and aspects of ART differ considerably and are shaped by an individual's own particular set of values, preferences, and beliefs, or those of their family and/or community.”

These national ethical guidelines should comply also to state or territory legislations that have a different regulation. Thus, the Panel is entitled to having a distinct opinion on allowing non-medical sex selection, when its consistent with the guiding principles of the Act. Moreover, the Australian health Ethics Committee (AHEC) has outlined that in some circumstances, sex selection for non-medical purposes can be in conformity with the guiding principles. Here, the AHEC to selection based on family balancing goal as opposed to selection based on the preferential selection of a particular sex due to some individual or cultural bias.

The Victorian case of JS and LS v. Patient Review Panel

In this case, a couple applied to the Victorian Civil and Administrative Tribunal (the Tribunal) for review of a decision by the Panel, which had refused to allow preimplantation genetic diagnosis (PGD) for non-medical sex selection. The couple, who already had children of one sex, wished to conceive a child of another sex, following the death of the child of that same sex. As they applied to the Tribunal, they struggled to prove that having a child of the desired sex would help them recover from the psychological stress associated with the loss of their child. Nevertheless, the Tribunal dismissed the application on the grounds that sex selection would not be in the best interests of the child to be born. Unlike the case of the Masterton family, who were refused to access to ART services for sex selection, the regulatory framework of Victoria allowed the couple to apply to the Tribunal based on the possibility of circumventing the restriction. In both cases, the couples were eventually refused, but in the case of *JS and LS*, the Tribunal provided a reasoning for the refusal, which was based also on the ethical analysis of the issue. In its decision to reject the couple's request, the Tribunal drew a comparison between non-medical sex selection and selecting a so-called saviour sibling for an ill child⁷⁵.

As outlined above, the Panel refused to grant access to ART services based on the welfare-of-the-child principle. Moreover, it emphasized that selecting the sex of the child was only a way to satisfy parents' specific desires, and it was focused on their psychological well-being, rather than that of the child's itself. Later, the Tribunal found that it was not sufficiently proven by the applicants that they would recover from PTSD or otherwise psychologically benefit from having a child of desired sex. Moreover, it stated that even if having a child of the preferred sex would have a positive effect on the couple, "their situation would fall far short of the gravity of a condition of a third party which would justify giving permission for an ART procedure to create a saviour child."

Thus, according to the Tribunal's reasoning, non-medical sex selection is distinct from other types of selection, namely, selection for a serious genetic disorder, and saviour sibling selection, which arguably also have therapeutic goals. Yet, does a lack of therapeutic purpose mean

⁷⁵ A child who is purposely conceived using embryo selection technologies as a matched tissue donor for an existing child of the family

that non-medical sex selection should not be permitted at all? The otherwise theoretical question seems to be more arguable in case of the Victorian regulatory framework, considering the Panel's discretionary power to decide based on each individual case.

Welfare of the Child Principle as Interpreted by the Tribunal

As mentioned, the Tribunal's primary reason for rejecting the application was related to the welfare of the child principle, as protected by the ART Act. Interpreting this principle in theory is very difficult; it is even more problematic in case of its practical application. In bioethics, there are ongoing debates regarding what constitutes the 'welfare of the child.' Moreover, this principle becomes more contentious when discussing the interests of unborn children, as the debates shift to the mainly philosophical (metaphysical) domain. In our case the Tribunal linked the welfare of the child principle with the potential harm to the child. However, it failed to explicitly mention those *identifiable and established factors of risk* that could in reality harm the child. One of the potential risks indicated by the Tribunal was the embryo biopsy procedure. Again, providing a tissue for a biopsy when aiming to create an embryo, which would later serve as a saviour sibling, is more ethically (morally) justified than a biopsy for the sole purpose of establishing tissue type. However, it can be rightfully argued that the guiding principles that provide for the protection of interests of other people, should also be considered. Of course, balancing the rights of the parents and the unborn child seems to be theoretically impossible, but the Tribunal attempted to argue that in order to have the non-medical sex selection approved, there should be a more compelling reason than a mere gender preference of the parents. While acknowledging this fact, it is unclear which extraordinary cases justify non-medical selection of sex — if not the psychological well-being of parents. Another question that arises in this regard, is how the applicants are supposed to prove the 'extraordinary' necessity to have a selection carried out. Again, similar to the Israeli case of the regulation of the non-medical sex selection, which allows circumvention of the general rule in some cases, the regulation in this case has quite an abstract definition.

It should be outlined that in Australia, the protection of the interests of the parents has been prioritized in many cases when the welfare of the child principle was not really taken into consideration. One such example is a request to utilize the sperm of the deceased partner for having

his child, even without his consent explicitly received (Smith & Taylor-Sands, 2018). Nevertheless, such requests have been approved as they would benefit the woman conceiving the baby. The welfare of the child, to be born without one of its parents, was not considered to be harmed. What I aim to show here is that the argument that applicants' failure to prioritize the welfare and the interests of the prospective child by focusing on their own desires, is not itself a reason to deny their request. This is not drastically different from the situation when parents prioritized the welfare of the sick child who might be cured using the tissue of the prospective child (Smith & Taylor-Sands, 2018). In both cases the priority is not given to the interests of the future child. In case of a sex selection, however, the welfare of the child to be born can be less disputable, as the parents would have their own desires or expectations finally met. Moreover, there is a high probability that this child will be more privileged compared to other children in the family.

In the context of saviour sibling selection — which was regarded by the Tribunal as having qualified support from an ethical perspective — the application of this reasoning regards the saviour child as a means to an end (that being a source of tissue for another). Purposely conceiving a child for the furtherance of one's own interests (or the interests of another, such as an existing child of the family) appears to violate this deontological principle of Kant (Smith & Taylor-Sands, 2018). Devolder observes that there are often numerous reasons relevant to a family's decision to reproduce, such as the strengthening of a relationship, continuity of the family name, and the economic and psychological benefits a child brings to parents when they age (Devolder 2005, 584). On this basis, it has been asserted that the motives of prospective parents do not necessarily provide a justification to conclude that they will not fulfil their parental duties and act as good parents (Strong, et al., 2011, 15)

It is difficult to accept that parental decision-making should be generally limited to avoid the threat that such technologies pose to the natural order of procreation. This argument does not succeed in the wider context of ART techniques, since IVF procedures are now generally accepted; nor does it provide a justifiable basis to prohibit other types of selective reproduction, such as saviour sibling selection. As discussed above, both of these viewpoints are not unique to the issue of non-medical sex selection relied upon by the Tribunal (as outlined above), and they do not fully justify the refusal of the couple's request, since similar arguments could be made for other types of selective reproduction. Non-medical sex selection goes beyond therapeutic goals, and

challenges established notions about parental acceptance and love, even past selective reproduction itself. The decision concerning *JS and LS* provides a rare example of when the issue of non-medical sex selection has been considered in a quasi-judicial capacity. The decision demonstrates the ethically problematic nature of non-medical sex selection practices, which can be perceived as a step too far in selective reproduction.

The Tribunal's conclusion, however, should not be excessively criticized, due to its regulatory context and the lack of precise guidelines as to when non-medical sex selection might be permissible. It is clear from a general perspective that the issue of non-medical sex selection is regarded by many as a step too far down the slippery slope toward designer babies — and that for some, such practices carry an undertone of discrimination and negativity towards people of certain genders. However, the Tribunal could have relied upon other, more persuasive ethical grounds to explain its conclusion, without comparing two types of selective reproduction. As determined by the NHMRC's response to the public consultation process, this reasoning, at least in part, seems to provide a basis for continued prohibition of non-medical sex selection in Australia. Considering this, the ART Act should clarify the rules on when sex selection can be legally permissible. The clarification will allow both the Panel and the Tribunal to clearly distinguish as to whether non-medical sex selection might be permitted under the Act on a case by case basis.

Chapter 8: Conclusions

Theory of Autonomy and Debates Around Sex Selection

The thesis addresses one of the most challenging bioethical issues that has been a focus of discussions among many bioethicists and legislators worldwide: selection of fetal sex for non-medical reasons. The issue has also attracted wide public attention, especially in countries with high gender inequality rates. Here, the availability of new reproductive technologies that allow detection of fetal sex have resulted in an additional increase of gender discrimination against women, as displayed through an alarming number of aborted female fetuses.

In this thesis, the concept of autonomy (reproductive autonomy) has been analyzed through ethical and legal lenses. The main aim of the study was to answer the question of whether the State has a compelling reason for regulating non-medical sex selection, and if any of those reasons could justify the prohibition of non-medical sex selection.

Autonomy is an extremely complex concept to define both in philosophy and bioethics. The thesis, therefore, does not attempt to give a new definition of reproductive autonomy, and is instead limited to analyzing already existing theories in light of new medical advancements. For this reason, the main research methodology adopted was the normative ethical analysis that could provide much-needed exploration of the role of autonomy for the regulation of non-medical sex selection.

In this Conclusion chapter, I will answer the two research questions presented in the Introduction chapter of the dissertation. Based on the analysis carried out in Chapters 3, 4, and 5, I will describe how the concept of autonomy is addressed within the bioethical framework. Furthermore, drawing on Chapters 6 and 7, I will discuss the role of autonomy in legal discourses on non-medical sex selection.

The thesis attempts to answer the following research questions:

1. If and in what ways, does the concept of ‘reproductive autonomy’ interrelate with the ban on sex selection?
2. What should be the right policy regulation on non-medical sex selection, considering the debates on reproductive autonomy and the Harm principle arguments?

The first one is largely based on the bioethics discussion of the concept of reproductive autonomy, and its interpretation as based on three main theories: liberal theories of autonomy that are mostly inspired by John Stuart Mill's harm principle, feminist relational autonomy theories, and finally liberal egalitarian theories that are a product of ethical discussions on recent advances of biomedical technologies. Analysis of each of the theories firstly seeks to answer the general research question of whether the concept of reproductive autonomy interrelates with the ban on sex selection (that includes definition of the concept of 'reproductive autonomy' and the scope and limits of its exercise). Furthermore, if so, what is the nature of that interrelation?

Discussions of the concept of autonomy and its practical application to ethical issues in biomedicine (and in reproductive medicine in particular) are thought to have been initially generated by liberal scholars. Berlin's distinction between 'negative liberty' and 'positive liberty' has been largely reflected in bioethics discussions. Berlin gave 'negative liberty' major importance in the development of liberal political thought — and by 'negative liberty' he implied freedom as noninterference or the absence of impediments to acting upon one's will. Meanwhile 'positive liberty' could be seen as freedom to realize an ideal of a more perfect humanity as conceived by others (Berlin, 2002). Traditionally, as Jennings argues, "autonomy in bioethics means freedom from outside restraint and the freedom to live one's own life in one's own way (Jennings, 2016)."

This idea of autonomy that implied mostly negative rights was directed against traditionally existing paternalism in medicine and healthcare. In this context, increased autonomy (independence) of individuals against paternalistic decisions, by securing voluntary and informed consent, was a basic necessity. Over the course of time this independence started to involve decision-making freedom also in the context of reproduction as a separate field of medical care. Autonomy within the reproductive framework began to involve decisions on one's access to contraception and abortion, or against forced sterilization.

As sterilization, abortion, and contraception involved the use of technologies, along with technological development, discussions on autonomy only expanded. As Johnston & Zacharias (2017) mention, "the responsiveness of autonomy discussions increased even more with the introduction of assisted reproductive technologies that made new methods of reproduction possible (IVF, sperm/egg donation, surrogate motherhood, etc.)." However, these technologies not only

played their main role of enhancing reproductive chances for wider scope of individuals, but also raised multiple issues in terms of their ethical (moral) or even legal use.

The importance of negative rights was already established by the time several scholars began arguing in favour of increased reproductive choices (freedoms) — such as John Robertson with his concept of ‘procreative liberty,’ and John Harris with his ‘reproductive liberty as a fundamental human right’ theory. Both Harris and Robertson rely largely on Ronald Dworkin to emphasize the fundamental right’s nature of procreative liberty, similar to that of freedom of expression or freedom of religion. Several others applied a more provocative approach by arguing that the use of new reproductive technologies for wider reproductive choices, such as genetic enhancements or fetal selections, should not only be permissible, but should also be encouraged (Savulescu J., 2001; Agar N., 2004).

As noted, the central argument on which libertarian theorists rely when arguing in favour of expanded reproductive autonomy is based on the potential harmful consequences of technological interventions. Multiple different ‘solutions’ have been proposed to test whether a specific intervention has a negative outcome for individuals. One example of this is the proximity test of John Robertson, described in more detail in previous chapters of the work. He argued that genetic interventions could indeed be banned if proven to lead to *sufficient* harm, which he failed to further elaborate on. However, some of his examples of cases when restrictions could be justified include non-therapeutic genetic enhancements, reproductive cloning, and other interventions that cannot be considered as a ‘normal’ reproduction.

As we discussed, Robertson’s, Harris’s, and other libertarian thinkers’ ideas generally have several limitations: *first*, they mostly focus on reproduction that occurs with the help of medical interventions and they tend to ignore the positive-rights based approach to autonomy. Generally perceived as a negative rights-based freedom, early conceptions of autonomy mostly ignored the role of social relationships and oppression in the process of decision-making.

Second, the libertarian account of autonomy largely overlooks the question of social justice. Advocating for expanded choices in terms of the use of reproductive technologies, libertarians fail to either recognize the impact that potential widespread use of ART’s will have on the general population, or even how to ensure their wider accessibility to the public. The existing suggestions of solving this problem have not, in our opinion, been successful. One such regulatory model, suggested by Buchanan, Brock, Daniels, & Wikler (2000), considered eliminating the

current line between therapeutic and non-therapeutic uses of ART's and medical technologies in general. However, considering the significant implications this can have in clinical practice (such as issues of distribution of healthcare costs), the recommendation mainly remained in the theoretical domain.

The other important issue was the problematic notion of libertarian 'harm'. In particular, it has been argued that the libertarian interpretation of harm does not allow a meaningful and more comprehensive implementation of the concept, due to its being controversial and somewhat vague.

The libertarian account of reproductive autonomy and harm in general has thus been criticized by many different schools of thought. In this work I have chosen to address the limitations of the libertarian theory by arguing against several of its important arguments.

One such argument relates to the fact that libertarian theories fail to recognize the importance of social factors in forming an individual's autonomy. Here I referred to relational autonomy theory, which became an integral part of discussions on how interpersonal relations, and in particular female oppression, could affect the autonomous choices of women.

Relational theory rejects the idea that individuals can survive outside of social relationships or isolated from them. The basic and most common idea of relational autonomy theory is that autonomy (autonomous decision) is a product of complex relationships, interactions, and influences of different individuals. As Jennings (2016) notes, the challenge of respecting one's autonomy is not to attempt to avoid relationality, but rather to be able to understand which "relationships and life worlds that are functional for the maintenance of communal meaning and integrity from those that are not, those that not conducive to the creative activity of individual self-discovery and self-realization from those that are not." Therefore, the issue is to find a way of "creating a condition in which conflicting values and norms are mutually constitutive of one another."

Despite the core ideology of the concept about the role of personal and environmental circumstances in a person's deliberative capacity, the relational autonomy theories are classified into two main groups: procedural, and substantive. In this work I have mainly discussed several perspectives of autonomy: in particular, I addressed Marilyn Freedman's conception of autonomy as self-reflection, as opposed to Catherine Mills' autonomy as self-formation (self-making).

Friedman's autonomy perspective is largely a liberal feminist perspective that is based on acknowledging (reflecting on) one's needs and desires. The autonomy of a person, according to

her, can be formed also within a social environment that boosts his or her reflective capacities. What is important is that reflection should not be a result of any type of unfair influence by others (manipulation, coercion, and so on), and the person should persistently reflect the same values and desire. This approach has been criticized by many feminist scholars due to its abstract nature and lack of capacity to distinguish between harmful and non-harmful actions. This can be affirmed if one tries to apply the theory to the case of non-medical sex selection. If we agree with Friedman that one's persistently reflected values are a basis for autonomous choices, then we cannot distinguish as to whether the choice of a specific gender is a matter of self-reflection or a general social influence. In fact, when one lives in a society where the majority prefer to have a son, it can become nearly impossible.

On the other hand, Mills argues that autonomy perceived only as a negative right cannot endure criticism. She largely relies on Foucault to claim that autonomy in general, as well as reproductive autonomy, is a combination of enactment of both negative and positive rights. This goes against the perspective of Berlin, who considered negative rights to be incompatible with the positive ones. Mills claims that Foucault's theory of ethical self-formation has proven that the two are not only non-conflicting, but they also reinforce each other and are necessary elements of self-formation.

Not only does she reject the more individualistic perspective of Friedman that autonomy can be exercised through reflecting on one's 'current' desires and values, but she also emphasizes the self-formative nature of autonomy. Self-formation, as opposed to self-discovery and self-reflection, is the process by which the individual defines his position relative to the values or principles he will follow and chooses for himself a specific mode of being that will become his moral goal. Thus, reproductive freedom for Mills is only meaningful and real when it is enacted in everyday practices of ethical self-formation.

The introduction of relational autonomy theory was another big step in better understanding reproductive autonomy. Despite various contradictory perspectives within the theory, which this thesis has only slightly touched upon, its importance in accepting autonomy as being also affected by the social interrelations and other social factors, cannot be undermined. The analysis of the feminist point of view on the matter is especially relevant given the fact that women should be the ultimate decision-makers when it comes to reproduction. In this respect feminists agree on a general notion that reproductive autonomy evolves in a social context where

traditionally there have been long-lasting restrictions and oppression on women. Even today, given the disturbingly skewed sex-at-birth ratios in many societies, oppression is behind decisions to abort female fetuses.

The potential of widespread access to new reproductive technologies has raised multiple concerns not only from liberal and feminist perspectives, but also from a more global-justice oriented perspective. Main concerns related to social justice are limited to enabling wider access to these technologies in terms of inclusion of women of different colour, age, and social class. The egalitarian justice perspective also aims to understand the possible negative outcomes of the widespread use of new reproductive and genetic technologies, and it mostly focuses on ethical and moral implications of enhancement. With this respect the thesis focused on three main egalitarian perspectives by John Sparrow, Michael Sandel, and Allen Buchanan that analyzed the ‘cost and benefits’ of enhancement and other non-medical applications of new technologies, for the society and the individual.

When it comes to discussions about whether or not parents should be allowed to autonomously decide on issues that will potentially have a significant effect on others (children), it is crucial to understand where parental autonomy ends and child autonomy starts. For this reason, the thesis dedicates a considerable amount of attention to normative ethical analysis of existing child autonomy theories. The evolution of autonomy within bioethics demonstrates the increase in the number of proponents of wider autonomy not only for parents but also for children. Among different theories of child autonomy, I chose to mainly discuss two mainstream perspectives of Feinberg with his ‘right to an open future’ concept, and Habermas’s argument on ‘communicative action,’ genetic enhancements, and socialization practices.

Chapter 4 discussions illustrate that both Feinberg and Habermas hold no clear position regarding the permissibility of non-medical sex selection. Feinberg argues that ‘the right to an open future’ implied that parents can exercise their autonomy only to the point that it does not influence their child’s own self-determination or self-development. While it is obvious that until certain age children are not capable of enacting their autonomy, parents should refrain from making important decisions on their behalf that would impact their whole life. Such decisions include genetic enhancements in the first place, since genetically modified children have no opportunity to reverse the effects of enhancements.

Not only do genetic enhancements or modifications affect the person during his/her lifetime, but they also subject the person to differentiation from other non-programmed people. This is one of the main arguments of Habermas that defines enhanced people as ‘the made’ and ‘the subjective,’ as opposed to ‘the grown’ or ‘the objective.’ While some might argue that the distinction does not matter as long as the individual is in control of his own life choices and decisions, Habermas insists that programmed people cannot develop their own life-project that is different from their parents’ intentions. These differences between ‘the natural fate and the socialization fate’ constitute an important moral aspect of self-realization or as Habermas calls ‘being oneself.’

This argument can be successfully applied also to the case of non-medical sex selection. A child born as a result of his/her parental projected expectations is a ‘product’ of parental intervention into ‘the natural process’ of conception. Sex selection affects the symmetric relationship that parents have with their children the same way as it affects the relationship of genetically programmed children with their parents, since both are instruments or means to others’ desired ends. Here, however, Habermas seems to deviate from his own position by stating that a person is either a man or a woman and cannot assume the opposite gender without necessarily being another person. Furthermore, he argues that because the identity of a person cannot be maintained, then the person cannot have a point of reference to see himself/herself as another gender. This argument raises many problematic issues, as discussed in Chapter 4, regarding the issue of intersex people.

Yet again, if Habermas’s socialization process mainly lies in the fact that parental intervention into the ‘natural process’ of conception cannot lead to a symmetric relationship, then his perspective about sex selection does not survive criticism.

Discussions in Chapters 3 and 4 provide theoretical contribution with respect to the first research question, and they aim to advance a better understanding of the theories behind the ethical implications of non-medical sex selection. The analysis of mainstream bioethics theories leads to a conclusion that there is a lack of attention to the context of non-medical sex selection partly due to the abstract nature of these theories. Main efforts to justify sex-selective abortions are focused not on the implications of this act itself, but rather on drawing parallels with the case of genetic enhancements by arguing that there is no individual harm in case of sex selection. This places two somewhat morally similar but at the same time significantly distinct cases in one kettle. While I

agree that addressing one issue without touching upon the other is nearly impossible, I strongly believe that the permissibility of non-medical sex selection should not be based on the perceived notion of harm. The utilitarian principle is impossible to apply in case of sex selection as successfully as it can be in cases of genetic enhancements and their potential harm. Therefore, the current regulations that prohibit performance of non-medical sex selection have rightfully deontological justification.

Current Regulations of Non-medical Sex Selection and the Role of Autonomy

The U.S Regulatory Framework

The second research question the thesis attempts to answer is what the right policy regulation on non-medical sex selection should be, based on debates on reproductive autonomy and the harm principle. This question is a follow-up to the previous ethical discussion and aims to reflect on if and how the current regulations had been based on the perceived reproductive autonomy of parents.

In order to answer the following question, I have analyzed three existing models of regulation on non-medical sex selection: Specifically, the US model of regulation, which lacks a federal prohibition on selective abortions, the so-called intermediate regulations of Israel, and the Victoria (Australia) and the common European prohibitive model. In each of the cases I analyzed both national legislation and judicial decisions, as well as the legal scholarship that addressed the cases of selective abortions. In particular, I mostly targeted the justifications of the laws and the ratio decidendi of court decisions (when available). Due to the shortage of legal policies and judicial cases surrounding the issue of sex selection, I decided to analyze also abortion policies and discussions on the moral/legal personhood of embryos (fetuses).

The cornerstone of the discussion is the analysis of U.S regulatory framework, in which the thesis thoroughly examines the ongoing discussions on current state legislation in the United States that prohibit sex-, race-, and disability-based selective abortions. The analysis of state bans on selective abortions is carried out considering the US Supreme Court's both historical and current positions towards the possible infringement of *the right to privacy* as protected by First and Fourteenth Amendments of the Constitution, as well as several landmark Supreme Court cases.

The analysis of the US legal system leads to the following conclusions: *first*, there is considerable difference between sex selection regulations on the State and Federal levels. While there have been multiple attempts to prohibit selective abortions on the federal level, there are as of yet no policies or guidelines that strictly prohibit the use of new reproductive and genetic technologies for non-medical sex selection. The issue is further complicated as a result of inconsistent and contradictory reports of ethics committees.

On the other hand, there are several state regulations aimed at banning generally discriminatory practices based on race, sex, or physical disability. Nevertheless, these regulations do not address the issue thoroughly, as they only attempt to regulate selections carried out through ultrasound diagnostic machines. They disregard the indication that a considerable number of selections are performed either through preimplantation genetic diagnosis or based on information provided by non-invasive prenatal tests. Clinical regulations of non-medical sex selection through assisted reproductive technologies are the other issue that needs to be reconsidered, by virtue of the fact that most clinics have different practices concerning the performance of selective abortions.

This may be considered a further validation of a conclusion that both in ethical and legal domains in the United States, sex selection is largely associated with abortion debates. As a result, it is not necessarily viewed as an ethically problematic distinct issue that needs to be addressed regardless of the methods of selection.

The final and most important finding of the Chapter 6 suggests that, although the right to privacy is commonly perceived as a reason why non-medical sex selection is not banned in the United States, the thorough and careful examination of the US case law suggests that certain limitations on abortion rights can be enforced. This has been confirmed by numerous Supreme Court cases aimed at protection of the State's compelling interests when dealing with various forms of discrimination. *Box vs. Planned Parenthood of Indiana and Kentucky, Inc.*, the most recent case touching upon the issue of fetal remains disposal and non-medical sex selection in the United States, has once again demonstrated that the lack of regulation of selective abortions in the country is mainly due to political unwillingness of the Court to be involved in ethically controversial debates. Though the Court has refused to review the writ for certiorari so far, it is clear that the growing number of selective practices will provide more food for thought to reconsider existing policies that support unlimited access to abortions. This argument is further

supported by the evidence of continually increasing ethical and politico-legal discussions surrounding the use of new reproductive technologies for non-medical purposes.

Intermediate and Prohibitive Regulations

The first part of Chapter 7 focuses on the common European approach with regard to sex selection. Here, I explored how European national legislations and international legal documents addressed the issue. This task was somewhat problematic due to lack of relevant case-law of the European Court of Human Rights, so the analysis integrated the more extended field of reproductive rights, including discussions of the moral/legal personhood of embryos and fetuses from the European perspective.

The analysis concludes that discussions on the autonomy of parents have taken place neither in relevant legal documents, nor in the ECtHR case-law. Moreover, most legal documents restricting the use of assisted reproductive technologies for non-medical reasons refer to the social consequences of the act (skewed sex-at-birth ratios, growing index of gender discrimination, and so on).

Another important conclusion of the Chapter, as already discussed, is that there is a high level of public opposition to non-medical sex selection in Europe, which explains the existence of prohibitive regulations. This implies that more than anything else, existing regulations on selective practices are largely based on public consensus. In different European states, public consultations have been held on multiple occasions through focus groups and opinion polls, and opposition to sex selection has predominantly been maintained.^{76 77}

Analysis of the relevant legislation in Israel and Victoria (Australia) aimed at developing a more in depth understanding of how the intermediate regulations function: in particular, whether allowing non-medical sex selection for family balancing (or any other legally permitted reason)

⁷⁶Human Fertilisation and Embryology Authority, Sex Selection: Options for Regulation, 2003, <http://image.guardian.co.uk/sysfiles/Guardian/documents/2003/11/12/HFEAreport.pdf>;

⁷⁷ Human Fertilisation and Embryology Authority, "Review of Sex Selection," <http://hfeaarchive.uksouth.cloudapp.azure.com/www.hfea.gov.uk/517.html>

can be justified, and whether these regulations can be efficiently enforced by courts or law enforcement bodies.

Unlike in the case of the United States, there is less or no reference to parental autonomy in legal debates on sex selection in Israel or in Australia. These regulations, which are generally prohibitive in their nature, allow for an exception to carry out sex-based selections for the purpose of family balancing. In the case of Israel, the law indicates the reason for allowing selections, whereas it is less clear what has formed the basis for Victorian law on Assisted Reproduction. Both regulations allow for the authorized bodies to arbitrarily decide upon permitting the use of preimplantation genetic diagnosis for fetal sex selection based on vague and unclear requirements.

In this context, the case of Victoria is an example of a unique quasi-judicial decision, in which the Tribunal addressed ethico-legal implications of non-medical sex selection. The importance of the case lies in the fact that the Tribunal, being faced with an ethically and morally controversial issue, had to decide the case based on the welfare of the child principle. However, it did so by applying an irrelevant comparison between the ethics of selecting a savior sibling and selecting a child based on its sex. In my opinion, the comparison drawn between non-medical sex selection and selecting a savior sibling did not provide legal and ethical clarification on why the applicants should be refused the right to choose the sex of their child. Moreover, the Tribunal's attempt to justify its decision, based on the necessity of pursuing a therapeutic goal, was not consistent with the ART's regulation itself, since the latter provides the Panel with discretionary power to allow non-medical sex selection on a case by case basis. It follows that the Tribunal's reasoning on the permissibility of selection should not be associated with the therapeutic nature of the procedure.

The main conclusion that can be drawn is that courts and quasi-judicial bodies face difficulties of justifying their decisions based on unclear and morally/ethically dilemmatic regulations, which lead to most applications' either being denied or approved without a strong rational basis.

Final remarks

In this work, I sought to explore the role of autonomy both in ethical and legal discussions on non-medical sex selection. I aimed to suggest that, even though autonomy plays a fundamental role in matters of reproduction, current regulations should not be based on it.

I did not mean to suggest that the reproductive autonomy of patients should be ignored or given less importance than it deserves. As the discussion in Chapter 3 and 4 suggests, autonomy in healthcare is a constantly evolving concept, which allows for increasing access to products and services of scientific achievements. Sex selection, in this realm, is a product of such achievements, which was neither available nor affordable in the past. When we permit performing non-medical sex selection for the sole reason that this option is available to us, the practice of medicine becomes simply a delivery of service, which medicine is not and should not be (King, 2017). Policy regulations should recognize the risks that NMSS causes and thus prevent potential unethical use of ARTs.

The ethical practice of medicine requires a carefully drawn balance. In delivering such practice, a major role should be given to physicians. For many physicians this can become a challenge, especially when they are required to explain to patients the adverse effects of selective practices with respect to society as a whole (King, 2017). Under these circumstances, similar to what Sandel suggests, it could be useful to have regular public debates about ethically sensitive topics; organizing group discussions and community forums can help to reach a consensus on acceptable regulation.

On the subject of field policies, as far as existing regulations prohibit performance of non-medical sex selection, they should more clearly justify the restrictions of reproductive rights. The lack of a common perception of harm should not be relevant or decisive during lawmaking processes, since legislative bodies should consider deontological rather than utilitarian arguments of (bio)ethics. As I have shown in this work, laws prohibiting sex selective practices are examples of legal moralism rather than as legislation based on the harm principle.

Moazam rightly notes that:

“it is difficult to enforce this prohibition and that prohibition does not necessarily change the sexist commitments underlying the practice, but that it...nevertheless sends a clear message that this is a morally reprehensible act. It thus applies legal brakes to the

application of misogynist attitudes, in this case through the use of technologies that discriminate against one half of the population. This action is surely not very dissimilar to the laws introduced in many Western countries that make discrimination based on gender a punitive offense” (Moazam, 2004).

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