

Thesis: Human Preconception Sex Selection: Informing the Public of Sex Selection Methods and Ethical Considerations

Editor's note:

Alysse Blight defended her thesis titled "Human Preconception Sex Selection: Informing the Public of Sex Selection Methods and Ethical Considerations," in May 2018 in front of committee members Jane Maienschein, Carolina Abboud, and Alexis Abboud, earning her a Bachelor's degree from Barrett, the Honors College. <https://repository.asu.edu/items/47623>

Abstract:

Scientific and public interest in determining the sex of a child prior to conception has a longstanding history. Since at least the fourth century BC, people have been interested in what determines whether a child will be a boy or a girl. It was not until the mid 1800s, when scientists first discovered female eggs and male sperm, and further learned that the combination of the genetic make-up of those sex cells began the process of conception, that science began to take precedence over popular beliefs and scientists began to make discoveries about the reproductive process in humans.

In the mid-twentieth century, two methods of sex selection emerged based on the idea that human male sperm cells are physically different based on which sex chromosome they carry, either X or Y. The first type of method gained popularity in the 1960s and involved timing intercourse throughout the female menstrual cycle. The two-timing methods of sex selection outlined in this paper are the Shettles Method and the Whelan Method. The second type of method was based on the idea that the physical differences between the two types of sperm cells allow for sperm cell separation using technology. The method that is outlined in this paper is called the Ericsson Method of Sperm Separation, and this paper also outlines a company called Microsort that utilizes this technology. However, many studies that tested the methods based on differences in the two types of male sperm were inconclusive, meaning that the methods were supported by some and rejected by others.

Despite the evidence that can neither prove nor contest those methods with absolute certainty, their popularity has been maintained in the public eye. By questioning methods of sex selection since their early development, and often discovering that they are unreliable, scientists have increased the creative and technological capacity of the field of reproductive health. The presentation of these methods to the public, via published books on timing methods and company websites for sperm sorting, increased interest in, and influence of, sex selection within the global society. The purpose of explaining the history, interest, development, and impact of various sex selection methods in the mid-twentieth century based on the information that is available on them today is to show couples which methods have failed and provide them with the knowledge necessary to make an informed decision on how they choose to go about utilizing methods of sex selection.

This paper also reflects on the ethical considerations of sex selection. The ethical considerations demonstrate the influence that sex selection has on both a global and local scale and how it is being managed in different parts of the world. This allows an individual member of the public to determine what they consider to be an ethical decision based on this information, in addition to an informed decision about the methods if they wish to go through with choosing the sex of their child.