

|| Book Review ||

***The Better Half:
On the Genetic Superiority of Women***

Sharon Moalem. New York: Farrar, Straus and Giroux, 2020, 274 pages

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The Better Half: On the Genetic Superiority of Women refutes the social prejudice that “women are weaker than men” by means of an analysis based on sex chromosome differences, an interesting approach that establishes that the difference between the two genders goes beyond socio-cultural perspectives. Based on the study of genetics, the author provides a scientific basis to repudiate the long-standing prejudice and uses that to expose the problems that occur as a result of the fact that so much medical research data treats men as the default and women as atypical. In the introduction, Moalem says that women live longer, have stronger immune systems, are better at fighting cancer, are less likely to suffer from a developmental disability, and are more likely to see the world in a wider variety of colors. The *strongness* of the women, as he refers to it in the book, does not represent a healthy body or muscles but a genetic condition advantageous to survival determined from birth. Moalem argues that women are stronger and superior to men because genetic females surpass genetic males in terms of resilience, stamina, immune system, and brain function. It may be questioned whether there is a need to distinguish gender superiority as the relationship between men and women is not confrontational but one of working together to produce offspring. Nevertheless, the book’s analysis of the genetic superiority of women will at least eradicate the myth that has long been taken for granted around the world.

Moalem provides abundant examples to prove that women are genetically superior. For instance, in his experience with the neonatal intensive care unit (NICU) for the treatment of premature infants and HIV-positive orphans in Thailand, girls were more likely to survive, while attempts to recruit older Thai adults to participate in neurogenetic research always found male volunteers scarce. And he finds the explanation for the fact that while more newborn babies are male

than female, the elderly population around the world is overwhelmingly more female than male, in the stronger viability of women. He argues that strong viability is related to longevity, and that proves that women are genetically superior. Along with this, he shows metaphorically that women endure tough physical experiences more than men using the example of women beating men and winning in ultra-distance races such as ultramarathons. Through this, he tries to say that being a woman is genetically advantageous in the long journey of life, seen as a marathon rather than a short-distance race, where it is difficult to finish the course if you sprint from the beginning. The author's simple and extreme logic that the longer-lived sex is superior allows readers to predict roughly how this book will unfold and his argument naturally leads to population statistics that women live longer than men and thereby persuades readers of the truth of his argument. Historical statistics show that women have survived better than men during periods of famine and disaster, and today, 95% of the elderly aged 110 or older are women, objectively recognizing that women are genetically superior. However, he doesn't look for the cause in behavioral differences arising from social gender roles. Instead, the case is presented on the basis of the differences in sex chromosomes inherent in males and females, and the argument that females are genetically designed to have superior survival characteristics to males. The value of this book is right here: women survive longer as a result of genetic differences, not because of differences in sociocultural gender roles. The hypothesis questions the stereotype that men have shorter life expectancy because they engage in more dangerous activities, like military service and construction work, than women.

We have already learned in biology class that sex chromosomes for men and women are different. This is an important basis for the author's belief that women are genetically superior. According to his explanation, the X chromosome is essential to life and plays an important role in the development and maintenance of brain function and immune systems. And for women, the extra X chromosome is very important for the prevention of intellectual disabilities and color blindness related to the X chromosome, compensating for missing genetic information like backup data on a computer. Unfortunately, men don't have an extra X chromosome. But the proposition that women's genetic superiority stems from the second X chromosome may seem extreme or simple. Nevertheless, Moalem has created an opportunity to break down the long-believed sociocultural myth of the "stronger sex."

The author also includes not only human cases, but also animal phenomena

along with his examples, so that the argument ‘women are genetically superior’ cannot be described as female chauvinism. His examples regarding birds are interesting because it is the opposite of the situation for humans. In Japan, fishermen sometimes use cormorants to catch sweetfish (*ayu* in Japanese). However, contrary to humans, male birds live longer than females, so fishermen naturally raise males. In this case, the author informs the reader that the sex chromosome composition of mammals and birds is different. As male birds have two Z chromosomes, just as female mammals have two X chromosomes, male birds live longer and are free from diseases related to human male X chromosome. This shows that Moalem’s concept of genetic superiority does not simply refer to women, but rather the inheritance of two identical sex chromosomes. Additionally, he mentions that the similar inheritance of two sex chromosomes is genetically superior in the case of lizards and amphibians (pp. 141–143). In conclusion, these facts make us imagine that a human male would be genetically superior to a women if he inherited two X chromosomes.

The latter part of this book discusses the disorders that women get as a result of their genetic superiority. The immune system that evolved to protect the body from invasions of pathogens can betray us. Through this, the reader knows that there is no perfectly superior sex. Chapter 5 shows that women’s active immune systems don’t always work positively through the example of the famous American celebrity, Selena Gomez, whose active immune cells mis-targeted and killed normally functioning cells. This autoimmune disease is called *Systemic Lupus Erythematosus* or *Lupus*. Eventually, she had a kidney transplant because of a potentially fatal complication called *lupus nephritis*. Women are genetically superior at the cost of suffering from autoimmune diseases because of an overactive immune system. Separately, he admits that women are more vulnerable to *ischemic strokes* and *Alzheimer’s disease*. From this point of view, genetic success is an individual difference, and it doesn’t seem important to differentiate by gender. In addition, the argument that women are genetically superior to men is misleading and unnecessary.

In the final chapter, the author strongly criticizes the practice by which medical research is male-centered and women are excluded. Since almost all cultures are organized around men, it can be assumed that medical research is also male-centered. He argues that medical research has been established on the basis of research on male cells, male animals, and male subjects. We therefore amass medical knowledge biased toward men, and there is no separate clinical treatment for women. The author argues that the field of clinical medicine developed

without considering sex differences because medical research was ignorant of the chromosomal specificity of women and didn't know that women's cells genetically cooperate and exploit the power of the inactive X chromosome. This is the result of social discrimination against women being reflected in medicine. A lot of data that does not take gender into account has been baked into our social systems. However, many policies rely on these numbers to allocate resources and make crucial decisions. Male-centered data naturally makes women invisible.

The purpose of this book is to inform the public that women are genetically superior by dividing women and men by the difference in their sex chromosomes. The author uses this as a tool to destroy the myth of the "stronger sex," which has long been taken for granted. This myth, created by a male-centered value system and social structure, threatens the health of women by biasing medical research toward men. *The Better Half* is a valuable book because it shows that gender discrimination affects not only women's social rights but also the improvement of health care. The results reveal a mechanism of gender discrimination from the perspective of genetics and medical research and present a new paradigm for gender problems.

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