

# No Kids, No Problem: Effects of Feminism on the Effective Population

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Canada's fertility rate has been steadily declining for the last seven years. From 2021 to 2022, live births decreased by 5.0% (Statistics Canada, 2023). The most recent data reports 1.57 births per woman, placing Canada near the bottom of worldwide fertility rates (CIA, 2023). While the feminist movement progresses women's rights and freedoms, Canada's fertility rate decreases (National Women's History Museum, 2021). As feminism evolved, having reproductive freedom became a significant goal (National Women's History Museum, 2021). The past two decades have opened opportunities, such as access to education and employment, for women that have allowed them reproductive freedom. In many countries, such as Canada, women have greater capacity to lead independent lives, and many have chosen not to have children, have fewer children, or have children in their 30s. With this change, we observe a reduction in the effective population ( $N_e$ ) and, therefore, in the fertility rate. The decrease in  $N_e$  can be explained by analyzing the evolution of feminism, how reproduction can be oppressive, and how women's empowerment can lead to changes in fertility.

### **The Evolution of the Feminist Movement**

In simple terms, feminism is an ideology and movement that is focused on ending oppression based on gender (McAfee et al., 2023). Feminism has grown in complexity throughout its various waves. The first wave began in the late nineteenth and early twentieth centuries when white, cisgender, middle-class women from the Western world advocated for more opportunities for themselves (Rampton, 2015). The second wave arose around the same time as the anti-war movement protesting the Vietnam War and the civil rights movement (Rampton, 2015). Significantly, the second wave coexisted among the antiwar and civil rights movements as it is what radicalized feminism—this wave was growing in numbers of leftists. It was based on deeper inquiries and critiques into the subjugation of women (Rampton, 2015). As

wonderfully noted by Willis (1984), the second wave brought women's fight for equality to light. The demand for reproductive freedom, such as abortion access, was born in the second wave (Willis, 1984). The second wave ended in the '90s due to internal disputes about pornography, and the third wave emerged (MasterClass, 2022). The prior waves had mainly comprised white women, but the third wave included women from marginalized groups, leading to the recognition of intersectionality (Anand, 2018). While the third wave never had an official end, it is recognized that feminism has evolved once again in the 21st century (National Women's History Museum, 2021). Previously, women were discouraged from speaking on issues such as rape, unequal pay, and violence against women (Crenshaw, 1991). The fourth wave has allotted women the freedom to speak on these issues, entire movements dedicated to sexual abuse were born, such as the MeToo movement, and attempts are made to combat these issues (Rampton, 2015). Fourth-wave feminism is a worldwide movement that thrives on the inclusion of all.

### **Reproductive Oppression of Women**

Reproduction throughout history has been used to control women, both directly and indirectly (Arthur, 2006). Reproductive oppression has existed in the form of forced sterilization and rape. Today, when a woman expresses that they do not want to have children, they may be met with unwelcome remarks about how they will become lonely, depressed, old spinsters (Qureshi, 2018). Our patriarchal society closely ties a woman's self-worth to their reproductive success (Qureshi, 2018). There are no considerations taken either for women who want children but medically cannot have children (Qureshi, 2018). Even though infertility is not a choice, women who are unable to conceive are still divorced, beaten, and ridiculed for not having children (Qureshi, 2018). Moreover, women who do have children often have more than desired

at the request of their partner (often the partner is a man) and endure potentially dangerous pregnancies (Qureshi, 2018).

Free reproductive choice cannot exist in a patriarchal and capitalist society (Folbre, 1983). While feminism has achieved education and work opportunities for women who can sustain themselves independently, they are still expected to contribute to the working class while bearing and raising children (Holmstrom, 1981; Richards & Saba, 1990). Women's labour in the home is often not considered valuable even though having children serves the capitalist ideology as the next generation of workers is being raised (Benston, 2019; Richards & Saba, 1990). The works of Holmstrom (1981), Folbre (1983), and Richards and Saba (1990) are from the late second wave, where much of the activism was amplified through academia. The authors' words from the late 20th century continue to ring true today; despite women's liberation worldwide, they are still expected to bear the brunt of domestic work.

Access to abortion services has increased in the last few decades following its decriminalization in Canada in 1988, but that did not stop some groups of people from trying to restrict abortion access (National Abortion Federation, n.d.). Abortion restriction is often used as a tool to try and curb population decline (Esfandiari & Zarghami, 2023). The Iranian government passed a law in 2021 that limited medical abortions and prohibited free contraceptives to prevent the continuous shrinking of its population (Esfandiari & Zarghami, 2023). This instead increased illegal unsafe abortions and led to women accessing the black market to obtain unreliable abortion pills (Esfandiari & Zarghami, 2023).

### **How Women's Liberation Can Lead to Decreased Fertility**

As a result of the feminist movement, women's empowerment worldwide has decreased fertility (Alvarez, 2022). Phan (2013) notes that fertility decreases as women's empowerment

strengthens and educational and work opportunities increase. Phan's claim is supported by a study done by Axinn and Barber (2001), where the authors sampled women from various areas in rural Nepal and analyzed their access to education and contraceptive use. Axinn and Barber concluded that educated women were more likely to use birth control in adulthood. Alvarez (2022) mentions that women living in Iran during the '50s attended school for an average of three years and had approximately seven children. In 2010, Iranian women attended school for an average of nine years and raised around 1.8 children (Alvarez, 2022). In countries where women's access to education is still restricted, such as in Niger, women spent less time in school and raised seven or more children (Alvarez, 2022). In Canada, over 60% of women have a post-secondary education and are overall some of the most educated people in the world (Statistics Canada, 2022a). When considering Canada's low fertility rate, the same pattern as mentioned by Phan (2013), Axinn and Barber (2001), and Alvarez (2022) is observed; where there are educated women, there is a low fertility rate. It can be confidently said that feminism and fertility are inversely correlated.

### **Impact of Feminism on Effective Population**

Another outcome of the feminist movement is that since women can now lead independent lives and sustain themselves, they can be more "picky" in what they want in a partner (Gregoire, 2022). It is essential to note the rise in toxic masculinity in the last few years, which has contributed to sexual selection (Benedian, 2022). This re-emergence of toxic masculinity has popularized the concept of being an alpha male (Benedian, 2022). The alpha male perpetuates the idea that women are nothing more than a man's property and that their only purpose is to have children (Benedian, 2022). This violently misogynistic movement has

influenced young boys and adult men (Benedian, 2022). In the age of progressive feminism, women have the freedom not to choose misogynistic men as their lifelong partners.

Now that women can pursue education and careers and decide not to have children, the  $N_e$  has reduced. The  $N_e$  is made up of those who are producing the next generation, i.e. those who are having children (Lechner, 2023a). Women who are unable to find an adequate partner usually end up not having children, and so they are excluded from the  $N_e$ . This exclusion leads to a decrease in the  $N_e$ . The 2021 census also recorded a population growth of 5.2% due to immigration, illustrating that population growth does not entirely rely on  $N_e$  (Statistics Canada, 2022b).

The  $N_e$  has decreased with the progression of women's rights, but what are the consequences of this decrease? Osada (2015) states that a small effective population can lead to loss of genetic variation (genetic drift) and inbreeding. Considering Osada's (2015) words, we may see a depletion in the genetic diversity that could be passed on to subsequent generations due to the smaller  $N_e$ . As the  $N_e$  reduction occurred relatively recently, however, the consequences of genetic drift have yet to be observed, and it is unlikely that inbreeding will be a significant outcome (Lechner, 2023b). A small  $N_e$  can also potentially lead to the fixation of harmful mutations (Lechner, 2023a), but some methods can help to remove deleterious mutations (Osada, 2015). Recombination can help protect populations by removing detrimental mutations (Lynch & Gabriel, 1990). Compensatory mutations also exist. These mutations can improve the effects of deleterious mutations (Akashi et al., 2012).

It has also been found that compensatory evolution mechanisms at the molecular level help avoid this fixation, such as maintenance of RNA structure and gene loss (Osada, 2015). Chen et al. (1999) describe how mutations that occur within the stems of RNA hairpin structures

are harmful because these mutations break up the stable RNA structure by destabilizing the base pairing of a stem. Functionality can be restored via a compensatory mutation, which restores the pairing of the strands and, in turn, restores the RNA's structure (Chen et al., 1999). In a study by Harcombe et al. (2009), the ligase gene in T3 phage was deleted to observe how the phage's cellular system would react. They found that compensatory mutations occurred in numerous DNA metabolism genes, improving the phage's fitness.

### **Conclusion**

The reduction of the  $N_e$  was explained by examining how reproduction is used as a tool of oppression, how women's liberation led to changes in the fertility rate, and by analyzing the evolution of feminism. The evolution of the feminist movement describes how women gained the right to dictate how they would live their lives without a man's input. Feminism secured rights to education, providing women with a means to provide for themselves without relying on men. Having the freedom to choose has resulted in women not having children and therefore not contributing to the  $N_e$ . The decrease in the  $N_e$  can have drastic consequences in the future as future generations may lack genetic diversity, but that does not mean women should be forced to throw away their wants and dreams to satisfy the capitalist machine's need for more workers. Throughout history, women have had to sacrifice their lives for the good of others. Why is it that when women finally have an ounce of freedom, they are deemed selfish? The probability that the  $N_e$  will become so small that humans will go extinct is unlikely; therefore, for once in history, women should not have to adhere to the wants of others.

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