

The History of Gender Discrimination in Women's Distance Running:  
Long-term Consequences and Solutions

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Intro:

Women have faced a long history of inequality in sports marked by gender stereotypes and medical fallacies. Beginning in the early 19<sup>th</sup> century, Victorian ideals shaped gender roles for men and women.<sup>1</sup> Women were viewed as the physically weaker sex and assigned the role of taking care of the children and household.<sup>1</sup> Such gender stereotypes were perpetuated by “medical experts” who believed humans had a fixed amount of energy, and that participating in intellectual and physical tasks were particularly harmful for pubescent girls.<sup>1,2</sup> It was thought that participating in physical activity would increase a girl’s risk of becoming sterile, weak, or masculine.<sup>1</sup> Well into the 19<sup>th</sup> century, only men were able to compete in sports, while women were forced to participate exclusively in noncompetitive recreation activities.<sup>1,2</sup> These activities included archery, croquet, and tennis, which could all be played in dresses and corsets.<sup>1,2</sup> This dress code perpetuated the idea that women had to maintain society’s view of femininity.

Almost a century later, similar myths permeated the sport of long-distance running. In the mid-20<sup>th</sup> century, it was believed that anything over an 800m run was dangerous and defeminizing for a woman to compete in.<sup>3</sup> There was a myth that if a woman ran a long-distance race her uterus would fall out and she would grow hair on her back.<sup>3</sup> In 1967 Katherine Switzer disproved this myth, as the first woman to officially run the Boston marathon.<sup>4</sup> Despite the obstacles in her way, Switzer completed the race and paved the way for women in long-distance running.

Trailblazers like Switzer, along with the rise of second-wave feminism, began to shift the culture around gender discrimination in sports.<sup>1,2</sup> In 1972 Title IX was passed, which outlawed discrimination based on sex in federally funded education programs and activities, including sport.<sup>1,2</sup> Since then high school girls’ athletic participation has increased by 840%.<sup>2</sup> Although

legislation has significantly increased women's participation in sport, there are still lingering effects of historical gender discrimination.

In 2019, Mary Cain sounded the alarm in the running community. In her *New York Times* video op-ed she exposed the abusive coaching style of Alberto Salazar of the Nike Oregon Project.<sup>5</sup> Cain explained that the all-male coaching staff pressured her to lose weight and convinced her it would result in faster times.<sup>5</sup> Cain was weighed in front of her teammates regularly and given an impossibly low weight goal.<sup>5</sup> After 5 stress fractures, suicidal thoughts, and a diagnosis of RED-S (relative energy deficiency in sport), Cain decided to quit the team.<sup>5</sup> The physical and emotional abuse Cain faced reflects a larger issue within the running community. Many coaches are uneducated about women's health and push impossible body standards on them. This dangerous subculture is reflective of the deep-rooted gender discrimination in long-distance running. The purpose of this research paper is to analyze the long-term consequences of gender discrimination in long-distance running and provide solutions to improve the culture.

### The History of Gender Discrimination in Women's Long-Distance Running:

Today it is common to see men and women running on the same track; however, this has not always been the case. Women have fought an uphill battle to prove their place in the sport of track and field. Men have been competing in Olympic track and field events since its commencement in 1896.<sup>6</sup> During this time, there was strong opposition by the all-male Olympic Committee to include women. The president of the International Olympic Committee, Pierre de Coubertin, was quoted saying "an Olympiad with females would be impractical, uninteresting, unaesthetic, and improper."<sup>6</sup> Much to his dismay, the women's suffrage movement in the 1920's

gave females more rights and recognition, including in sport.<sup>2,6</sup> In 1928, Amsterdam hosted the first Olympics to include female track and field events.<sup>6</sup> In the 800m run Germany's Lina Radke took home the gold and broke the former world record by 7 seconds with a time of 2.16.8.<sup>6</sup> The second-place and third-place finishers also beat the previous world record in this event.<sup>6</sup> However, it was not the accomplishments of these women that made headlines; instead American newspapers reported "6 of the 9 runners were completely exhausted and fell headlong to the ground."<sup>6</sup> The *New York Times* deemed this distance "too great a call on female strength."<sup>6</sup> Not only did these reports undermine the achievements of these female runners, they simply were not true. Footage from the race reveals that only one runner fell at the finish line and was quickly helped up by an official.<sup>6</sup> The photos used in the news articles were also faked. They were not of the 800m runners, but the 100 meter sprinters at the finish line, altered to look particularly unflattering.<sup>6</sup> The lengths the media went to paint an untrue depiction leads one to wonder whether there was an actual concern about female health, or if this was caused by fear of female success. Nevertheless, this media hoax resulted in a nationwide ban on women competing in any race over 200m.<sup>6</sup> The Amateur Athletic Union (AAU) upheld this ban for 30 years and threatened women who ran anything longer with a lifetime suspension.<sup>6</sup> These bans were only the start of what women had to overcome to run competitively.

Within the months that followed, the AAU, announced its opposition to women competing in the Olympics and promoted noncompetitive "playdays" instead.<sup>1,2,6</sup> These playdays were held on college campuses nationwide and highlighted the recreational nature of the events.<sup>1</sup> While competitive sport was seen as a crucial part of male education, women's competitive sports teams were diminishing.<sup>1</sup> It was seen as unladylike to compete for awards and trophies.<sup>2</sup> These playdays sought to limit awards and "sensational" publicity from woman's sports.<sup>2</sup>

The tides began to change in the 1940's during the Second World War. Men were leaving their jobs to serve in the military, resulting in a huge gap in America's economy.<sup>2</sup> Women rose to the occasion and took positions within the workforce.<sup>2</sup> Women believed that if they could successfully work, they could also compete on athletic fields.

Breaking workforce norms spurred women to break sport norms, as well. One figurehead in the long-distance community was Bobbi Gibb. In 1966, Gibb disguised herself in men's clothing and hid in a bush to run the Boston Marathon. Following in her footsteps, a year later Kathrine Switzer officially entered the Boston Marathon under the name K.V. Switzer, to disguise her gender.<sup>3</sup> Although it was not explicitly stated in the guidelines, women were discouraged from racing due to myths that infiltrated the culture. Switzer disproved these myths by completing the marathon in 4 hours and 20 minutes, ahead of many men.<sup>3</sup> It was not without obstacles, however. During her run, the race director tried to physically pull her out.<sup>3</sup> Luckily Switzer's boyfriend tackled the director, so she could continue her race.<sup>3</sup> These iconic photos spread throughout the country, showing America that women would no longer be pushed to the side in sports. Together, Gibb and Switzer blazed the trail for female long-distance runners.

Female figureheads, along with the second-wave feminist movement in the 1960's began the push for real legislative change in women's sport. A major accomplishment of the movement was the passage of Title IX in 1972.<sup>1,2</sup> Title IX outlawed discrimination based on sex in federally funded education programs and activities, including sport.<sup>1,2</sup>

The same year that Title IX was passed, the AAU finally allowed women to compete in distance road races.<sup>7</sup> The AAU insisted on a separate but equal start, mandating that women start 10 minutes before the men.<sup>7</sup> At the New York City Marathon, 6 courageous women protested in defiance. When the gun went off, the 6 female racers sat down on the start line for 10 minutes.<sup>7</sup>

When the 272 men were ready to begin, the women stood up and began the race with them.<sup>7</sup> Their act of defiance showed that women did not need pity from others, instead these women demanded respect. Quickly after the AAU scrapped the separate but equal rule and allowed men and women to run marathons together.<sup>7</sup> Finally, in 1984 women were able to compete in a marathon at the Olympics with Joan Benoit making history as the first-place finisher for women. Since then, women's participation in the marathon has increased from 10% to 44% in 2016.<sup>7</sup>

Although women have had a late start to the sport, they have proven to be extremely efficient long-distance runners. Interestingly, studies have proven the longer the race the smaller the gender gap becomes.<sup>4,8,9</sup> The gender gap in the 100m sprint is ~10% which decreases to ~9% in the marathon and only ~6% in ultramarathons.<sup>8</sup> One explanation for this is that females rely more heavily on lipid oxidation during prolonged sub-maximal exercise, which results in delayed fatigue.<sup>9</sup> Researchers also found that within the first 30 years women were able to race competitively, their improvement rate exceeded that of men.<sup>4</sup> This led many to believe that women would eventually surpass men in long-distance races; however, there are clear biological differences to account for. Males have larger lung and heart sizes on average, which enhances VO2 max capabilities, a key factor in endurance running.<sup>4</sup> Despite biological barriers, there have been women that have beat men in long-distance races. In 2002 and 2003 Pamela Reed came in first place at the Badwater Ultramarathon, which is an 106-mile race in the mountains.<sup>4</sup> And in 2007, Hiroko Okiyama came in first place at the Deutschland Lauf Ultramarathon.<sup>4</sup> Since, women have been allowed to enter the distance running community, they have found great success.

However, the success women are having in long-distance running has come at a cost. In 2019, Mary Cain blew the whistle in the running community.<sup>5</sup> In a *New York Times* Video Op-ed she revealed that she had been physically and emotionally abused by her coach Alberto Salazar,

of the Nike Oregon Project.<sup>5</sup> The all-male coaching staff pressured her to lose weight claiming it would help her run faster.<sup>5</sup> It highlighted a larger problem within the sport; that some men in leadership positions are setting unrealistic body standards for young women.

### Long-term Consequences on Female Runners:

Although legislation exists that outlaws sex discrimination in federally funded sporting programs, there are residual effects of historical gender discrimination today. Most notably, women have been kept out of leadership positions in sports. Today, roughly 40% of women's athletic teams have a female head coach.<sup>1</sup> These numbers get bleaker at more elite levels of sport. In women's D1 track and field only 22.9% of women hold head coaching positions.<sup>10</sup> Male leadership dominance in women's sport have led to several consequences for female athletes.

Many male coaches do not have a full understanding of the female body or the pressures women face in sport. During puberty girls experience a third of weight gain from fat tissue.<sup>11</sup> Girls may try to prevent these changes through maladaptive eating behaviors to stay lean for sports.<sup>11</sup> One study found that compared to female coaches, male coaches communicated more frequently to athletes about getting their body at an ideal level for performance in their sport, eliminating certain foods from their diet, and taking certain supplements.<sup>12</sup> Male coaches were also more likely to believe that skipping one or two meals a day was not a threat to health or performance.<sup>12</sup> It is important for coaches to be mindful of their comments towards young developing women, as they are at an increased risk for developing eating disorders. Women compose 95% of disorder eating cases and of these cases 90% occur under the age of 25.<sup>11</sup> Female athletes in lean sports are particularly at risk for developing eating disorders.<sup>13</sup> Out of 12 sports, cross-country (45%) was among the top three sports with the highest disordered eating

cases.<sup>13</sup> When maladaptive eating behaviors and excessive exercise are combined, this can have dire consequences on the health of female athletes.

The Female Athlete Triad (FAT) is a medical condition associated with low energy availability, menstrual dysfunction, and low bone mineral density.<sup>14</sup> This condition arises when athletes expend more calories than what they take in on a regular basis.<sup>14</sup> This can happen whether the athlete is experiencing disordered eating or not.<sup>14</sup> Normal body functions like menstruation stop because the body does not have enough nutrients.<sup>14</sup> When a woman stops menstruating for a prolonged period of time, the decreased estrogen levels increase risk for low bone mineral density.<sup>14</sup> When tested for the prevalence of FAT, cross-country was among the top three sports in the moderate-high risk categories at 48.9%.<sup>14</sup> This medical condition is important for coaches to understand because it results in serious consequences on health and performance in sport. Low bone mineral density associated with FAT leads to an increased risk for stress fractures.<sup>14</sup> One study, evaluated 323 athletes and found that cross-country athletes had the highest incidences of stress fractures or stress reactions, at 37.3%.<sup>14</sup> FAT also has long-term consequences. Adolescence is the critical time for bone acquisition and when people experience decreased bone mineral density during puberty it can increase their risk for future osteoporosis.<sup>14</sup> Another medical condition, Relative Energy Deficiency in Sport (RED-S), expands on FAT and encompasses athletes of all ages and sexes.<sup>15</sup> Like the triad, RED-S is also more common in female athletes.<sup>15,16</sup> Components of RED-S include menstrual function, bone health, endocrine, metabolic, hematologic, psychologic, cardiovascular, gastrointestinal, immunologic, and development changes.<sup>15</sup> A person with RED-S may not experience all these symptoms as symptoms depend on the severity.<sup>14</sup> Both conditions have serious consequences on the mental and physical health of athletes. It is important that coaches are knowledgeable about these



conditions and spread awareness amongst their athletes. Unfortunately, one study found that only 64% of Division I college coaches have heard of the triad before and only 43% were able to list the three components correctly.<sup>12</sup> The same study found that female coaches placed a much higher significance on the importance of coaches knowing if their athletes are having regular menstrual cycles and were more comfortable having these conversations.<sup>12</sup> FAT and RED-S are serious conditions that all coaches should be familiar with to prevent health consequences on their athletes.

Conditions like, FAT and RED-S are often perpetuated by the culture in women's long-distance running. There is an unspoken culture in the sport that supports pushing the body to its limits and perusing thinness to achieve the "ideal runner's body".<sup>16</sup> One study investigated 29 current and former NCAA D1 female distance runners and found that most women characterized the ideal runner's body as "skinny legs and smaller thighs... 6-pack abs."<sup>16</sup> Certain body types are portrayed as more successful in the sport, leading women to believe that they have to look the same way. It was a common belief in these runners that women who were tiny and had long skinny legs embodied the ideal female distance runner.<sup>16</sup> Another study interviewed male and female distance runners on the ideal vs. perceived body type. The results showed that the ideal competitive body type was leaner and taller than the proposed model and that perceived body image by the athletes largely did not match what was perceived as ideal in the sport.<sup>17</sup> Entangled in the belief of the ideal runners body is the myth that "lighter is faster."<sup>16</sup> This mentality is only true up to a point. Initially a person will experience a decrease in running times with reduced weight; however, if this pattern continues the body eventually does not have enough energy to support the athlete and leads to conditions such as FAT or RED-S.<sup>16</sup> In addition to harmful body standards, long-distance running also has a culture of pushing through pain and running extreme

distances. It is often seen that the culture of mental toughness is a positive aspect of the sport; however, it often leads athletes to push their bodies past their limits. On average, male coaches were found to be less likely to consider exercising more than required a threat to health in female athletes.<sup>12</sup> More research is needed to understand what training is appropriate for female bodies. Often male coaches train women just like they train men. This is not to say that women cannot train as hard as men, it just acknowledges the fact that women and men's bodies function differently and more research is needed in female sports.

The culture of women's long-distance running is highly influenced by the coaches. In many coach-athlete relationships there is an underlying power dynamic which has the potential to become toxic. Carson et al. found that women described collegiate coaching relationships to be more serious and "businesslike" compared to earlier in life.<sup>16</sup> Often times this leads coaches to prioritize athlete performance over their physical and mental health.<sup>16</sup> Some athletes in this study indicated that coaches knowingly allowed athletes struggling with eating disorders to continue to compete.<sup>16</sup> In addition to this, coaches may also place pressure on athletes to achieve a certain weight or shape. Several women in the study reported the use of shame tactics to monitor an athlete's food choices, especially on days when the team travels together.<sup>16</sup> These toxic coaching behaviors relate to the struggles Mary Cain faced at the Nike Oregon Project. It is hard to imagine that one of the top running programs in the world would be this neglectful and toxic towards their athletes. Under the leadership of Alberto Salazar, Mary Cain was pressured by an all-male coaching staff to lose weight.<sup>5</sup> She was regularly weighed in front of her teammates and publicly shamed if she did not hit her weight goal.<sup>5</sup> Cain developed RED-S, lost her period for 3 years, and fractured 5 different bones.<sup>5</sup> In addition to the decline of her physical health, this coaching style also took a toll on her mental health. Feeling trapped, Cain started to have suicidal

thoughts.<sup>5</sup> When she confronted her coaches about this, they shrugged her off. Cain made the painful choice to quit the team to survive. By speaking out, Cain was able to expose the toxic coaching style at Nike. Mary Cain's relationship with her coach is a clear example of an unbalanced power dynamic between coaches and their athletes.

Just like there are power dynamics in coach-athlete relationships, there is also a power hierarchy in administrative positions in sports programs. Only 18% of all athletic administrators in the NCAA are women and for years the IOC was ruled solely by men.<sup>6,12</sup> Men being historically put in power positions has evaded women's issues in legislation. One clear example of this in the running community is the treatment of female athletes when they become pregnant. Alison Felix, one of the most decorated Olympians in Track and Field history, experienced this in 2017.<sup>18</sup> While she was pregnant, Nike denied Felix maternity rights and cut her pay by 70%.<sup>18</sup> There is a clear problem with the avoidance of women's issues in legislation. Males are allowed to have full careers; however, if a woman decides to become pregnant, she gets little protection and sponsors drop her. Sophie Power, an accomplished ultramarathon runner, faced a similar issue when she became pregnant in 2018.<sup>19</sup> Three months after giving birth Power completed Ultra Trail du Mont Blanc, which is an 106-mile mountain race.<sup>19</sup> At this race, Power became a viral sensation when a picture of her breastfeeding her son went viral on the internet; however, Power shared that she never wanted to run this race in the first place she was forced to because the London marathon did not allow deferrals for pregnancy.<sup>19</sup> After months of highlighting the issue, the London marathon finally changed its rules in 2021; however, the fight to get there proves that there is still a long way to go to achieve true gender equity.<sup>19</sup> As Power suggests sport should be designed by women for women.<sup>19</sup> With women in positions of power rules will

be right the first time, instead of women having to constantly fight for equity in sports.<sup>19</sup> More influential voices of women in sport are needed when decisions are being made.

Not only are there residual problems from historical gender discrimination in sport, in some countries women are still banned from sport participation all together. The London 2012 Olympics marked a historic time in history because it was the first time women from all countries were able to compete.<sup>20</sup> In countries like Saudi Arabia, women are strongly discouraged from participating in sport; however, Sarah Attar made history when she ran the marathon representing the country in 2012.<sup>20</sup> It is hard to imagine that certain countries still highly restrict women from competing.

#### Solutions to Improve the Culture in Long-Distance Running:

It is extremely important to educate coaches, parents, and athletes on specific health factors in women's sport. Coelho et al. found that after reviewing several prevention programs for eating disorders, education programs proved to be the most effective method of primary prevention.<sup>11</sup> Proper education programs should address correlates and risk factors of eating disorders, which athletes are at the highest risk, early detection strategies, and prevention.<sup>11</sup> Serious consequences of low energy availability in sport can be avoided by properly educating athletes. It is shocking how low the scores are for knowledge on FAT and RED-S among athletes and coaches. Lodge et al. found that 68-78% of female cross-country athletes and 65-70% of coaches indicated that they have not been educated on FAT or RED-S.<sup>21</sup> The same study also found that female cross-country athletes used online resources as their primary source of information on this subject.<sup>21</sup> This is disheartening that women are not getting a proper education on particular health consequences in sport and have to turn to the internet for guidance. There is

a lot of false information that gets spread on the internet particularly regarding health and fitness for women.

Not only is educating coaches important, but it is crucial that there is increased female representation in coaching and administrative positions in sport. While properly educating men on female health in sport is one solution, female coaches have a deeper understanding of the issues young girls face in sport. Kroshus et al. found that when interviewing female coaches and male coaches, females associated low energy availability and menstrual disturbance as more significant on health compared to men.<sup>12</sup> Female coaches also rated binge eating, skipping meals, overexercising, and undereating as more harmful compared to male coaches.<sup>12</sup> In addition, female coaches were more comfortable asking athletes if they are having regular menstrual cycles.<sup>12</sup> Having female coaches offers a diverse set of skills compared to men. Women have more personal experience and can use that to support young female athletes.

Another solution to improving the culture in long-distance running is understanding the importance that peers and teammates play on an individual. Kroshus et al. found that increased frequency of anti-dieting advice from teammates was associated with reduced severity of eating disorders and BMI.<sup>22</sup> Athletes are highly influenced by their peers, and setting good examples of healthy eating habits and providing a strong support system can help prevent eating disorders and body image dissatisfaction. There is a lot to be improved in the culture of women's long-distance running, but it is highly achievable.

### Conclusion:

The long history of gender discrimination in sports continues to impact athletes today, specifically in women's long-distance running. There is an underlying sub-culture within the sport that pushes women to achieve unrealistic body standards. This is harmful to young women

because there is no one ideal body type. Often this culture is perpetuated by male coaches that train women just as they train men. Men and women have different biological needs, and more research is needed to understand how to properly train female athletes. This culture has bred a silent epidemic within the women's running community, since many female athletes adopt maladaptive eating behaviors to stay lean for sport. Such dangerous dietary restrictions can lead to several serious health conditions. It will take some time, but there are manageable solutions to this issue including proper education programs, increased female representation in athletic administrations, and improving team-culture.

I feel personally connected to the issues presented in this paper as a competitive female runner for 7 years. I have seen this silent epidemic with my own eyes. My goal in the future is to be a knowledgeable coach for women's long-distance running to help prevent women from falling into dangerous patterns. I want female runners to feel empowered and healthy!

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